Post-graduate Lecture
ON
SOME VARIETIES OF PARALYSIS IN CHILDREN.

Delivered at the National Hospital for the Paralysed and Epileptic, Queen-square.

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GENTLEMEN,—The conditions to which I particularly wish to direct your attention to-day are three in number, and I have selected those varieties of paralysis in children because they are those most frequently met with and because they offer certain points of resemblance which make their differential diagnosis now and again somewhat difficult, although by careful attention to their main characteristics they are in the majority of cases easily distinguished. The three conditions are (1) the paralysis *par excellence* of childhood, acute anterior poliomyelitis, which is also known as the essential paralysis of children or acute spinal paralysis; (2) infantile hemiplegia, a paralysis of cerebral origin and involving, as its name implies, one-half of the body; and (3) congenital spastic paraplegia, also of cerebral origin, and possibly, in the majority of cases, occurring during birth.

1. *Infantile paralysis (acute anterior poliomyelitis).*—This is most common in children under the age of three years, although it frequently occurs in later years and occasionally in adults. A point on which most writers agree is its occurrence much more frequently in the hot months of the year than in the cold ones, although it does occur in the latter. The mode of onset varies, but in the majority of cases the paralysis seems to be preceded by a period of feverishness and general malaise not uncommonly attended with convulsions. I have said "preceded," but I think it is open to question whether the symptoms I have mentioned do not occur concomitantly with the paralysis, having as their determining cause the morbid constitutional condition of which the paralysis is one manifestation. What makes this view at least possible is the fact that the paralysis has not the chance of becoming evident until the malaise has passed off and the child tries once more to use its limbs. This is the usual mode of onset, but in some cases constitutional disturbance seems to be altogether absent. The child goes to bed in its usual health. It seems to sleep as usual, but in the morning is found to have lost the use of one or more limbs—in this case, I believe, of usually only one limb. The relation of nervous lesions to traumatism is always obscure. Not uncommonly the onset of this disease seems to have a distinct relationship to some preceding accident. Thus one child whom I have seen had a fall and hurt its left leg. It was able to walk the same evening, but next morning it was feverish and sick, conditions from which it continued to suffer during the following two weeks. At the end of this time, when it again began to try to walk, it was found to have lost the use of its left thigh and leg, which were wasted and which remained permanently paralysed. Another child was frightened by a dog. It screamed and fell down and was unable to rise. It lost the use of both legs at the time, and although the right leg recovered partially the left remained paralysed. There is one group of cases which is of much importance and of no little interest—namely, those which, in addition to the general symptoms mentioned, are accompanied by very severe pain in the affected limbs. Such patients cannot be touched even without evincing evidence of intense suffering. As has recently been pointed out by Dr. Gowers, this probably depends upon a condition of nerve inflammation occurring simultaneously with the anterior horn change, and both processes may be conditioned by a blood state possibly depending upon infection. I may mention as a significant fact that two cases of this nature which I have seen occurred simultaneously in two members of the same family. As regards the influence of preceding illness, especially measles and scarlet fever, I have not been able to trace any close connexion in any cases that I have seen. Indeed, of twenty-five cases seen recently, in only one was there any mention of such preceding illness—namely, measles—and this had occurred six months before the onset, so that its influence could scarcely be anything more than an indirect one. Dr. Gowers, with his much larger experience, comes to the same conclusion. The condition when the cases come under observation at the hospital is that, as a rule, part of one or more limbs is paralysed—usually the lower limbs,—but although the distribution of the palsy seems to be more or less erratic it has certain features which may be pointed out. At the commencement it is almost invariably more extensive than it is ultimately. Thus it is not uncommon to have paralysis of all four limbs at the onset, but after a time the arms may recover and that so completely that no trace even of weakness is left. Often, also, at first both legs are paralysed completely, but later the loss of power is confined to one or even part of one, or it may be that one group of muscles—e.g., those of the thigh—is affected in one limb, and another group—namely, those of the leg—is picked out in the other. As a rule, therefore, it may be expected that the initial loss of power will pass off to some, it may even be to a considerable, extent. The permanent palsy usually affects the legs; but the arms, or one arm only, may be the affected part, and the distribution may be varied. In one particular form, known as the "Erb type," the muscles especially about the shoulder are affected. The paralysed limb is flaccid, it is colder than the other, and it is usually very blue in colour, possibly from vaso-motor paralysis. Some years ago I made some observations which seemed to show that a dose of pilocarpin which caused sweating in the healthy limb did not produce any such effect on the paralysed one. The knee-jerk is lost, as a rule, in the affected leg. This is probably because the vastus is usually wasted, but I have now seen two cases in which the paralysis was limited to the leg below the knee, the knee-jerk remaining active. The child's general health does not suffer, but if the trunk muscles are affected respiratory troubles are apt to ensue and constipation is frequently troublesome. There is rarely any affection of the bladder. Sensory affections are difficult to test in children. In some cases of this affection in adults there has been a transient impairment of sensibility, probably similar in its causation to the transient palsy to which I have referred. The condition depends upon an affection of the grey matter of the anterior horns. In cords examined after the palsy has existed for some time wasting of the part of the anterior horn related to the paralysed limb or limbs is found and there is a disappearance of, or alteration in, the ganglion cells in it. In the cases that have been examined when the process was still acute, inflammatory changes have been found in the anterior horns, with alteration in the ganglion cells. In some cases actual cavities have been present, but in others degeneration of the ganglion cells seems to have been the only change. Dr. Gowers suggests that there may be a pure parenchymatous variety as well as that in which interstitial inflammation is the obtrusive change; but whether it is interstitial or parenchymatous, the lesion is at first probably a definitely restricted one, picking out the cells in the anterior horns which subserve certain muscles or groups of muscles. These are no doubt the muscles which are permanently injured; whilst those which are only temporarily affected are so probably because there is a transient abolition of function in the cells representing them by reason of exudation only. With regard to the ultimate pathology of the condition, its occurrence at certain seasons, the affection of more than one member of the same family at the same time (I have seen two instances of this) and the constitutional symptoms usually attending the onset, all point to some general blood condition which may be of infective character; but such a view at present is only speculative. As regards treatment in the acute stage, the general principles guiding treatment in acute illness must be followed, as well as the particular indications from the nature and seat of the malady. Treatment in the prone position is difficult to carry out and it does not seem to have been systematically used. It is certainly clearly indicated. Local counter-irritation—best by the actual cautery—is also admirable, as there is no tendency to trophic disturbances. It is, unfortunately, the fact that the disease is one which is very difficult to recognise in the early stage. Feverish attacks in children are so common that any weakness of which the child may not complain is apt to be overlooked, and this is especially true in children who are too young to walk. It is possible that if this condition were more often recognised it would become more amenable to the means of treatment which I have enumerated. Considerable improvement is to be expected after subsidence of the acute stage, but when all has taken place much disability may remain. Any treatment used after this stage is reached is unfortunately limited in its effects, but

where any normal muscular tissue is present and the ganglion cells relating to it are also presumably intact passive exercise by massage and electricity at first and voluntary exercise later will do much to increase such tissue. Even if the muscles do not at first react to galvanism they may after a few applications be found to respond, and one American observer goes so far as to say that reaction may return even if it has remained in abeyance during a year's systematic treatment with galvanism. In such a case we must suppose that a certain number of fibres has been present, not numerous or strong enough to cause a visible reaction, but which in virtue of their daily stimulation have so increased in bulk and force as to cause a reaction so strong as to be easily visible, for as far as we are aware galvanism is useful only in maintaining the nutrition of the muscles until the normal voluntary impulses are able to reach and to act upon them from the spinal cord. Care also must be exercised by constant movements to prevent the deformities likely to arise from over-action, or rather unantagonised action, of the unaffected muscles. If this has taken place tenotomy may be necessary, and when everything that treatment can do has been effected the persistent loss of power may be to some extent corrected by the use of mechanical supports.

2. *Infantile hemiplegia.*—The hemiplegia characteristic of childhood is that which occurs during the first few years of life. Its onset is sudden and is usually ushered in by convulsions affecting the side which is afterwards paralysed. These may be numerous and the general constitutional condition accompanying them is one of great disturbance, with unconsciousness, high fever &c. This affection is not uncommonly a sequel of some acute illness, especially scarlet fever. I have seen one case after typhoid fever and two cases following diphtheria. The cases following scarlet fever are frequently associated at their onset with evidences of acute kidney change. As regards the clinical symptoms when the acuteness of the process has passed off, the hemiplegia is of the usual cerebral type, the face, arm and leg being affected on one side. Aphasia, if it occurs, is only temporary, rarely, if ever, persistent; but if the paralysis is right-sided and occurs in children before they are able to speak the acquisition of speech is delayed. Sensory impairment may occur at the onset; but, like the aphasia, it is transient and is never met with after the first week or two. The reflexes are increased, and rigidity and contracture supervene on the paralysis. One of the features of this paralysis in children is the presence in a large proportion of the cases of the mobile spasm known as athetosis. This persists during the life of the patient, and when it is seen in an adult it is an almost certain indication that the paralysis dates from childhood. Fits are very common in this condition and the patients lapse into a condition scarcely distinguishable from ordinary epilepsy. As a rule, the convulsions commence in the paralysed limb and are limited to that side. Consciousness is generally lost, and except for the usual limitation to one side the fits are not to be distinguished from those of so-called idiopathic epilepsy. Occasional attacks of petit mal are present, and I have known them to be associated with the dangerous automatism met with in epileptics. There is also frequently, as is to be expected, a considerable degree of mental defect. The condition depends on damage to the brain. The two views which are held with regard to the cause of this are: (1) that of Strumpell, who regarded it as the result of inflammation of the cortex, a polio-encephalitis, analogous to that in the grey matter of the anterior horns which causes the disease of which I spoke last; and (2) that which regards the condition as the result of some vascular change—either an arterial or, as Dr. Gowers thinks, a venous thrombosis. What makes it difficult to decide such a question is the fact that after the lapse of some time the condition of the brain produced by either of these processes would be practically the same, and at present no definite knowledge can be claimed as to what is the initial condition. With reference to the treatment, in the early stage free purgation, which is probably effected best by means of calomel, is clearly indicated and has often most beneficial effects. If convulsions are present bromide should be administered in at least half-drachm doses, and it is best to give it per rectum. The diet should be light, and an ice-bag will be found to give relief if pain be a feature. After the acute stage of the illness is passed the child may remain well, except for the paralysis, even for years. The weakness also may pass off to such a degree that no impairment of force in the leg is noticeable, and the upper limb may also regain a fair amount of power; but, as a rule, the paralysed side is not so well developed as is the other one. In some cases the fits begin at once and without treatment will persist, recurring at varying intervals; but in others, as I have just stated, it may be years after the acute illness before they make their appearance. The hopeful feature about them is that they are more than usually amenable to treatment by the bromides. If these are not effective in controlling the convulsions the combination of borax will often attain the desired end. For the condition of paralysis little can be done except by massage and exercises, active and passive, which aim at preventing rigidity and restoring power. The leg nearly always recovers to a great extent, and sometimes, as far as is visible, completely.

3. *Cerebral spastic paralysis.*—There is another form of paralysis to which I wish to direct your attention—namely, birth palsy—i.e., a paralysis which is present at the time of birth, but the manifestation of which may not be quite clear for some weeks or even months afterwards. In this condition it is rare for only one limb to be affected. Occasionally the condition is hemiplegic and may closely resemble what I have just described; but it differs in being present at birth and in the fact that the degree of mental impairment is invariably greater. Occasionally all four limbs are affected, but the arms usually to a less degree than the legs, and in one particular form, definite enough to mark a distinct variety, both legs are affected, whilst the arms almost entirely escape. This is the form known as congenital spastic paraplegia, and it presents the symptoms of marked extensor spasm in the legs and difficulty in walking, the gait being stiff and the progression cross-legged. There may be slight incoördination in the hands, but the main force of the malady has fallen upon the legs. In this form the mental condition may be only slightly impaired, and convulsions are not common. This form of paralysis is the result of meningeal hæmorrhage and consequent injury of the cortex and degeneration in the pyramidal tracts of the cord resulting from this. The hæmorrhage usually, if not invariably, occurs during birth and nearly always in long or difficult labours. If instruments have been used you will find the parents only too ready to ascribe the condition to the forceps; but, as Dr. Gowers has insisted, it is much more probably the result of the conditions which make the use of forceps necessary. The distribution of paralysis will depend upon the site of the hæmorrhage. If this is unilateral the paralysis will be hemiplegic in type; if it be bilateral both sides will be affected. In the form known as congenital spastic paraplegia the hæmorrhage is presumably over the vertex on each side of the longitudinal fissure, and thus affects both the leg areas. Such a lesion explains the paralysis present and it also accounts for the escape of the arms and for the greater degree to which the mental faculties escape in those cases. Treatment in this condition is unfortunately without much effect except that directed to the general health. Rubbing the limbs with the view of diminishing the rigidity is certainly advisable. The degree of power attained by the legs is often much greater than would be expected, and a fairly good prognosis as to the likelihood of walking, although of course the power may come very late, may be given in most cases.

The differential diagnosis of the last two conditions from the first is important, and the following considerations will probably be sufficient for the distinction. In the spinal paralysis of children the paralysed limbs are cold, blue and flaccid, and they have lost reflex action. The affected muscles also have lost the power of response to the faradaic current and the mental condition is clear and unimpaired. In the cerebral condition, on the other hand, the limbs, although not well developed, present no localised wasting and their appearance and temperature are unaltered. Reflex action is excessive in hemiplegia, the knee-jerk on the affected side being increased, and in the spastic variety a mere touch is usually sufficient to make the legs jerk out in extension. In the birth palsies the mental condition is almost invariably and, it may be, profoundly altered. A slight alteration may also be present in the cases of hemiplegia which occur in early life, but it is slighter in extent than in the birth palsies. Fits associated with spinal paralysis never occur unless at the onset of the illness. With the cerebral palsies of children, especially in infantile hemiplegia, their occurrence is frequent. A careful consideration of these distinctions will usually guide one correctly, although in some cases it is surprising how difficult it is to place a given case in its proper category. The importance of doing so is of course extreme, both for the purposes of prognosis and treatment, and I think that the hints I have given will usually be sufficient for your proper guidance when a case comes before you.

An Address
ON THE
SURGERY OF THE AIR PASSAGES AND THORAX IN CHILDREN.

Delivered at the Royal College of Surgeons of England.

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(Continued from p. 683.)

INTUBATION for laryngeal diphtheritic obstruction does not seem to make much progress in general favour in England. It is not my intention to go through the oft-repeated arguments as to the respective merits of intubation and tracheotomy, but rather to point out some of the causes which have prevented intubation from having had a more extensive trial in this country. The treatment of diphtheria (in its surgical aspect) in our hospitals is for the most part carried out by the resident staff and every six months or a year this staff is changed. Students are taught nothing about intubation in most of the text-books, and, not unnaturally, the operation of tracheotomy—concerning which they have heard and thought a great deal—presents many attractions. How many tracheotomies have you done? is a common question to be asked of the outgoing house surgeon; and it is generally thought to be not kind or fair to add, And with what result? In the recent and important work by Mr. Jacobson on the "Operations of Surgery," which was published in 1891, he writes: "I am unable to recommend intubation in diphtheria. Within a few months of the appearance of Macewen's paper I made use of his method in three patients with membranous laryngitis at the wish of my friend Dr. Goodhart; every one of these came to tracheotomy. I ought to say that of Dr. O'Dwyer's tubes I have no personal experience, but I am strongly of opinion that in children at least they cannot meet with a large amount of general success." At the commencement of his remarks Mr. Jacobson says: "Tubage of the larynx in membranous laryngitis is one of those new modes of treating an old disease about which it is difficult to give a decided opinion, as the matter is still *sub judice*." Notwithstanding this qualification the influence of Mr. Jacobson's opinion on senior students must be very great. In America and in many parts of the Continent intubation has now been very largely tried by the medical officers in continuous charge of the diphtheria hospitals, and with results which certainly command grave attention. The operation of passing an intubation tube in a young child without chloroform with a swollen and inflamed condition of the parts is not an easy one, and it is one which requires constant practice, with much thought and attention to detail. Without special study tracheotomy is undoubtedly the safer operation. It is not, however, the difficulty, but rather the want of familiarity with the use of the instruments, which often determines the hospital resident medical officer against intubation. In young children the epiglottis is not always easy to feel, but the arytenoid cartilages can always be defined. When intubation first began to be practised it was thought that it might be tried in all cases, and that if the progress was unsatisfactory tracheotomy could then be substituted—and, in fact, converted into an easy operation, with the intubation tube as a guide to cut down upon. The mortality after such secondary tracheotomies was so terrible that, not unnaturally, operators became discouraged and wished that they had performed tracheotomy in the first instance; and this has had a great deal to do with the present lack of confidence in intubation. It does not, however, by any means follow that this mortality is consequent on the previous intubation, but rather on the fact that cases which are sufficiently progressive or malignant to be unrelieved by intubation are almost certain to die under any circumstances. At St. Thomas's Hospital of eighteen cases of intubation followed by tracheotomy only two recovered.

Case 35.—The patient, a boy three years of age, was admitted in a condition of collapse suffering from marked dyspnœa, with retraction of the ribs. Intubation gave relief, but the tube was coughed up an hour later; an attempt to replace it failed, so tracheotomy was done. There were signs of pneumonia on the third day. The tube was discontinued on the fifth day, but it was reintroduced five days later, and it was finally discontinued on the fourteenth day. The child left the hospital well on the fifty-seventh day. In this case the intubation was for so short a time that it may almost be regarded as a primary tracheotomy.

Case 36.—The patient, a child two and a half years of age, was admitted with membrane on the left tonsil. Intubation was done on the day after admission for dyspnœa, but as the condition did not improve tracheotomy was done shortly afterwards and some membrane was coughed up. It was necessary to continue the use of the tube until the eightieth day. The child left the hospital well on the ninety-first day. This successful case again amounts to a primary tracheotomy.

As regards the fatal results, in six cases tracheotomy was done within a few hours of first intubation, and in ten cases after an interval varying from one to nine days. Thus all the patients died when intubation was at first followed by improvement and tracheotomy was performed later. The cases in which intubation alone was done were thirty-five in number with ten recoveries, or 29 per cent. If to these are added the eighteen cases in which tracheotomy had subsequently to be performed there are fifty-three cases, with twelve recoveries, or a little over 23 per cent. During the same period 110 patients were treated by tracheotomy alone, with thirty-two recoveries, or rather more than 29 per cent., or, adding the eighteen cases which were first intubated, there were 128 tracheotomies with 34 recoveries, or 26 per cent. When considering the position of intubation in 1890 I referred to thirty cases which had been treated at St. Thomas's Hospital, with 40 per cent. of recoveries. I then stated that from so small a number it was impossible to speak with any confidence, but that this method ought to receive most serious attention, and I still maintain that we are justified in giving an extended trial to intubation in diphtheria. With increased experience and better selection of cases suitable for intubation treatment there is every reason to hope for better results. A few of the unsuccessful intubations at St. Thomas's Hospital deserve special notice.

Case 37.—The patient, a boy four years of age, had been ill for four days. Membrane was noticed on the tonsil at the time of admission. Intubation was performed the next day, and a large piece of membrane was immediately coughed up. The tube was coughed out in twenty-four hours, bringing with it a complete cast of the trachea. He died on the fifteenth day after admission from broncho-pneumonia. At the post-mortem examination no membrane was to be found, but there was ulceration of the trachea in small patches.

Case 38.—The patient, a boy three and a half years of age, was admitted to hospital suffering from diphtheria. Intubation was performed and the tube was worn for four days. The child apparently recovered, but he continued to expectorate small quantities of offensive matter, and he died at the end of three months with signs of gangrene of the lung. At the post-mortem examination the larynx was found to be healthy, but the trachea showed a healed ulcer about the size of a threepenny piece, with evidence of destruction of the cartilage beneath. The lung showed several large patches of well-marked gangrene, and it is fair to assume that this was occasioned by the ulcer, which corresponded to the position of the end of the intubation tube.

Case 39.—The patient, a girl aged two years and two months, was intubated for diphtheria. The tube was worn for five days; she died on the seventh day. At the post-mortem examination an ulcer was found on the left side of the tip of the epiglottis, having been produced by the string of the tube. In the larynx there were several superficial ulcers, which were probably the result of tube pressure. There were also found two symmetrical ulcers just below the base of the epiglottis, an oval ulcer on the anterior surface of the trachea half an inch below the vocal cords, and a second one half an inch lower still, in which two tracheal rings were exposed.

Case 40.—The patient, a boy three years of age, was admitted to hospital suffering from slight dyspnœa; he had scarlet fever on the fourth day. The dyspnœa was more marked on the tenth day and it was relieved by intubation. The tube was coughed up and replaced on the fourteenth and fifteenth days. It was necessary to perform tracheotomy on the nineteenth day. The boy died twenty-one days after admission. At the post-mortem examination some membrane was found in the trachea and bronchi. There was ulceration of the left edge of the epiglottis and

between the left true and false cords; ulceration was also to be seen in the anterior wall of the trachea, at a spot corresponding to the end of the intubation tube.

Case 41.—The patient, a girl aged six years and a half, suffered from diphtheria, for which tracheotomy was performed. Membrane was coughed up on the third day. A tracheotomy tube was required till the twenty-second day, and after it had been left out for thirty-six hours urgent dyspnœa occurred. An intubation tube was inserted for four days and the child left the hospital well on the fifty-ninth day. This case is, however, not included in the list of successful intubations, since the intubation was done for secondary dyspnœa.

Examination of the post-mortem notes of the cases which were fatal after intubation alone had been performed shows one case of slight ulceration of the larynx, two cases of extensive ulcers and one case of a healed ulcer of the trachea In eleven cases membrane was found to extend from the trachea to the small bronchi. In three cases membrane was found in the larynx and the trachea alone. Bronchopneumonia or collapse of the lung was found in all, except the case of gangrene of the lung For the sake of comparison I have looked through the post-mortem notes of eighteen cases of diphtheria in which tracheotomy alone was done The cases are not selected, but are consecutive ones in the years 1890 and 1891. In fourteen cases membrane was found from the larynx to the small bronchi. The lungs were either collapsed or were in a condition of bronchopneumonia in eleven cases and were stated to be normal in one case. Emphysema of the neck and anterior mediastinum occurred in one case. In one case the wound was infected, and membrane was found from the wound to the small bronchi. In one case membrane was found in the larynx and pus in the trachea and bronchi. Membrane was present in the larynx and trachea in one case. I was prepared to find that in the cases of tracheotomy membrane would have been less in evidence owing to the better chances which were afforded for its escape. It is, however, quite clear that the main cause of death in diphtheria is extension of membrane downwards, whether the treatment be by tracheotomy or by intubation. In vol. xix. of the St. Thomas's Hospital Reports are two excellent papers on Intubation by Dr. W. W. Ord and Dr. Turney respectively. Both these gentlemen had had previous experience of tracheotomy as house surgeons at St. Thomas's Hospital, and gained their experience of intubation at the Victoria Hospital for Children and the South-Eastern Hospital of the Metropolitan Asylums Board respectively. Dr. Ord gives a list of eleven cases of intubation for diphtheria with seven recoveries and four deaths, but he rightly qualifies this by saying that the average age of the children was high—viz., of the recoveries five years and of the fatal cases two years. Since Dr. Ord began his experience of tracheotomy at St. Thomas's Hospital by a series of six successful cases his remarks on intubation are likely to be without prejudice against tracheotomy. He writes as follows: "Having had during a year's residence at St. Thomas's Hospital an opportunity of watching a large number of cases of diphtheria and of performing tracheotomy I have no hesitation in saying that though the cases of intubation related above had no better success than I gained in tracheotomy, yet as a result of my experience of the former operation I should always when possible perform it in preference to the latter. Even if the percentage of successful cases of intubation were far less than it is I think that, considering the terrible mortality which results from the accepted surgical treatment of diphtheria, both intubation and any other method that may in future be suggested should be fully tried on its merits by all who may have the opportunity of doing so."

I will now give brief extracts from Dr. Turney's paper illustrating the dangers of intubation in diphtheria. The first case was that of a child three and a half years of age. On the fourth day after intubation for diphtheria the tube was coughed up, and Dr. Turney found the child lying apparently lifeless. The tube was replaced and animation was restored. On the following day the tube was again coughed out, and on arrival in all haste five minutes after the occurrence Dr. Turney was informed that the child was dead. With tracheotomy and artificial respiration the child revived, but death occurred two days later from syncope. Dr. Turney remarks "that enthusiastic intubators tell us that their method is pre-eminently adapted for private practice, but this case proves that at any moment an accident may arise which leaves the nurse, whether she be skilful or ignorant, utterly helpless until the arrival of the medical man—an accident which may end in death so quickly that the most speedy help may come too late. Before I had any practical knowledge of intubation I was told the flattering tale that after coughing up the tube the patient generally remained comfortable for some hours, and in any case for a reasonable time—in fact, that was the strongest argument for the universal application of intubation. The above, though the most marked, is far from being the only instance to the contrary in my short experience." The next case was that of a child four years of age, who was intubated thirty-six hours before death. The post-mortem examination disclosed the presence of a shallow ulcer on the inter-arytenoid fold, upon which the posterior horn of the enlarged upper end of the tube rested. In the larynx there were two symmetrical ulcers below the true cords. At a point in the trachea at the level of the lower end of the tube in the middle line anteriorly there was an ulcer, the floor of which was formed by two denuded rings of cartilage. Another case was that of a child five years of age, who was admitted to hospital with membrane in the throat. Two days later intubation was performed for dyspnœa, and great relief was afforded. On the third day of intubation a scarlet fever rash appeared. The child wore the tube almost continuously for ten days and then it was decided to move it with the extractor. At the first attempt the tube disappeared. It was thought that it had become dislodged into the pharynx, but respiration ceased almost directly. The trachea was then opened, but all attempts to restore animation failed. At the post-mortem examination deep ulceration of the pharynx was found to exist, the left aryteno-epiglottidean fold being completely destroyed. The whole of the inner surface of the larynx above the true cords was deeply ulcerated, and, in fact, it was necrotic; the false cords were destroyed. The thyroid cartilage was in part necrosed and the anterior half of the cricoid was disintegrated A number of the upper rings of the trachea were bare and necrotic in front. The intubation tube was found lying across the end of the trachea extending down the right bronchus. On placing the tube *in situ* it was found that the slightest pressure was sufficient to push it through the disintegrated larynx. The following case was also given. A child five years of age was admitted to hospital with thick membrane on the fauces and tonsils. Intubation was performed, but the tube was coughed out in an hour; it was replaced after an interval of three hours. The child developed signs of scarlet fever. During the next six days the tube was worn intermittently, being left out for a few hours each day; then for fifteen days it was left out altogether. The condition of the patient was not, however, satisfactory; the voice was husky and the breathing was stridulous on excitement. On the twenty-second day after the first intubation the tube had again to be replaced for urgent dyspnœa and after two days tracheotomy was performed. The child died on the next day. At the post-mortem examination no membrane was to be found; there was well-marked œdema of the epiglottis, the aryteno-epiglottic folds and the false cords. Ulceration of the anterior part of the trachea was present down to the fourth ring. On the left side the floor of the ulcer was formed by the disintegrated cricoid cartilage; the first ring of the trachea was bare. These two cases of extensive ulceration were both complicated by scarlet fever. In the second case intermittent intubation was tried in the hopes of avoiding pressure-necrosis; the tubes used were of the size recommended by O'Dwyer. Cases of diphtheria complicated by scarlet fever are almost invariably fatal when tracheotomy is done, so that these two extreme cases of ulceration must not be considered as being evidence against the use of intubation in uncomplicated diphtheria. At the conclusion of his paper Dr. Turney remarks: "My object in writing is not to attack intubation, but to point out its dangers to those who are commencing its practice. The advantages are so obvious that there seems little necessity for its advocacy. No one but a house surgeon would choose tracheotomy for the operation's sake; whilst intubation, on the other hand, presents so alluring an aspect of simplicity and safety to surgeon, patient and relatives that there is considerable danger of its displacing the older operation without sufficient cause being shown."

After a careful consideration of the post-mortem records of uncomplicated cases of diphtheria which were treated by intubation at St. Thomas's Hospital, the Hospital for Sick Children, Great Ormond-street, and the Victoria Hospital for Children, I am satisfied that extensive ulceration is quite exceptional. I have heard of a case in a provincial town

where, although recovery took place (after subsequent tracheotomy), permanent occlusion of the larynx resulted. This condition of complete occlusion, however, has followed recovery without any intubation. In a paper by Mr. T. Smith[1] one is referred to as being recorded by Dr. Steiner, as follows. A child two years of age had tracheotomy performed for diphtheria in 1862. The tube could not be dispensed with and the child died nine months later from hydrocephalus. It was found that the opening of the larynx had completely disappeared, the canal being perfectly obliterated by a firm, almost cartilaginous, cicatrix, which could only have been produced by deep ulceration following the diphtheritic exudation. Dr. Ball[2] gives a list of twenty-two cases of intubation in children between the ages of thirteen months and eight years, with ten recoveries. Two of the number were for traumatic conditions—drinking hot tea and carbolic acid; the remainder were cases of simple laryngitis or membranous laryngitis. In five cases it was secondary to measles, with four deaths. In seven cases tracheotomy was performed after trial by intubation because the tube seemed to become blocked by membrane or secretions; all these cases died. Two of the cases were intubated because the parents refused to give their consent for tracheotomy to be performed.

At the Hospital for Sick Children, Great Ormond-street, the first trial of intubation in diphtheria was very unfortunate. Eleven cases were intubated in 1890, with one recovery. It is only fair to add that owing to the bad results which were obtained at first intubation was reserved for those cases which seemed to be least likely to recover. During 1891 and 1892 no cases of diphtheria were intubated, but lately the method has been tried again with considerable success, as is shown in the following list of cases:

Case 42.—The patient, a child aged eight years and five months, suffered from laryngitis (diphtheritic?). The intubation tube was coughed out in an hour and a larger one was inserted. The child was fed with a nasal tube. The intubation tube was left out on the ninth day. The patient recovered.

Case 43.—The patient, a child aged five years and eight months, suffered from laryngitis (diphtheritic?). Intubation was performed on admission. A larger tube was introduced on the tenth day, but it was left out on the eleventh day. Recovery of the patient ensued.

Case 44.—The patient, an infant aged one year and four months, was admitted to hospital suffering from diphtheria. Intubation was performed four days after admission. The patient pulled the tube out on the third day and it was not required again. The patient recovered.

Case 45.—The patient, an infant aged one year and two months, had an attack of diphtheria. The patient was intubated on admission. The tube was changed four times and was left out on the ninth day. The patient recovered.

Case 46.—The patient, a child aged two years and four months, was admitted to hospital suffering from diphtheria. Intubation was performed, the tube being removed on the third day for twenty-four hours; it was then replaced for three days. Recourse was had to nasal feeding. The patient recovered.

Case 47.—The patient, a child aged four years and three months, was suffering from diphtheria on admission to hospital. Intubation was performed; the tube was taken out for two hours on the second day and permanently on the tenth. The patient recovered.

Case 48.—The patient, a child aged three, was intubated on admission to hospital for diphtheria. The tube came out on vomiting in the evening. Tracheotomy was performed and the tracheotomy tube was left out on the fourth day. The patient recovered.

Case 49.—The patient, a child aged two years and four months, was admitted to hospital suffering from diphtheria. Intubation was immediately performed. The tube was pulled out by the patient on the following morning, and it was replaced on the fourth day. Two days later the tube was coughed out and it was replaced, but as the relief was not considered to be sufficient tracheotomy was performed. The tracheotomy tube was taken out nineteen days later. The patient recovered.

Case 50.—The patient, a child aged four years and seven months, was intubated. The tube was coughed out in half an hour. Tracheotomy was performed. Death occurred fifteen days after admission. At the post-mortem examination membrane was found in the small bronchi.

Case 51.—The patient, a child aged two years and eleven months, was admitted to hospital suffering from diphtheria. Intubation was performed, and the tube was removed on the second day. Tracheotomy was done, but death took place five days after admission to hospital.

Case 52.—The patient, an infant aged one year and five months, was admitted to hospital suffering from diphtheria. Intubation was done to relieve dyspnœa just before the patient died.

In the second series there are eleven intubations with three deaths, or over 72 per cent. recovered. In two of the cases, however, there was no certain evidence of diphtheria, but in one case intubation was only done just before death to relieve the distress of dyspnœa, and in the other two fatal cases tracheotomy had also been performed. If to these are added the eleven cases which were intubated in 1890, there is a total of twenty-two cases with nine recoveries; or, notwithstanding the unfortunate commencement, over 40 per cent. recovered. This shows that the trial has been fully justified, and I do not wish to prove more. My own feelings are in favour of tracheotomy as a routine operation for the relief of obstructed breathing in diphtheria, but I believe that equally good results can be obtained by intubation, and that (1) the nature of the case, (2) the surrounding conditions, (3) the age of the patient, (4) the previous experience of the surgeon, and (5) the consent of the friends must be the chief factors in determining the choice of method.

1. *The nature of the case.*—Cases of a very malignant type—particularly those which arise in the course of scarlet fever or measles—are unsuitable for intubation, chiefly from the great tendency of the larynx to become ulcerated by pressure of the tube. In all cases where membrane is very extensive in the mouth and where there is a suspicion of extension below the larynx early tracheotomy would seem to be advisable.

2. *The surrounding conditions.*—Several of the American writers advocate intubation for cases in private practice—particularly amongst the poor and when good nursing is not to be had—on the grounds that when the intubation tube is once introduced the child is in comparative safety, and that if the tube should become blocked with membrane it will probably be coughed out; there will thus be a reasonable interval before dyspnœa recurs—sufficient to allow the medical attendant to arrive. Unfortunately, as I have shown from Dr. Turney's experience, there are exceptions, and I should be unwilling to intubate in private practice unless a medical man who was competent to deal with any emergency was living in the house. It is most unsatisfactory to have to do tracheotomy with unsuitable surroundings, but any intelligent person can be given instructions what to do if the tube becomes blocked. On one occasion I was called to see a child who was apparently dying from diphtheritic suffocation, and by making a free incision into the trachea I was able to extract a quantity of membrane and to bring the child round. Nothing could be worse than the surroundings—a small room over a rag and bone shop which was miserably furnished,—and there was an old charwoman to act as nurse. Contrary to all expectations the child made an excellent recovery. The case was one for tracheotomy under any circumstances and the patient was far too ill to be removed to hospital. My colleague Mr. Clutton tells me that he intubated on two occasions on which he found the surroundings to be unsuitable and then sent the child to hospital with the intubated tube *in situ*. In both cases the patients arrived at the hospital in a greatly improved condition.

3. *The age of the patient.*—Tracheotomy under two years of age is so very fatal that intubation would seem to offer the better chance if the larynx only is affected. In the cases at the Hospital for Sick Children, Great Ormond-street, three of the children were under eighteen months old and yet two recovered.

4. *The previous experience of the surgeon.*—It is most important that he should have thought carefully over the whole method of intubation, and it is equally important that he should have previously practised it on the dead subject, or, better still, have had an extended experience on the living. Intubation is much more likely to be satisfactorily done by a good hospital resident medical officer than by one of the visiting surgeons.

5. *The consent of the friends.*—Consent might be obtained when permission to perform tracheotomy had been refused, or if permission had not been asked it would be right to give the preference to intubation.

[1] Transactions of the Royal Medical and Chirurgical Society, vol. xlviii. [2] THE LANCET, Nov. 26th, 1892.

Since writing these remarks I have asked Dr. Collier, who has been responsible for part of the first series and all of the second series of intubation cases at the Hospital for Sick Children, Great Ormond-street, to give me his views from the experience he has gained, and he has kindly given me the following clear and definite statement: Intubation of the larynx is not a suitable procedure when laryngeal diphtheria is accompanied by diphtheria of the pharynx or of the naso-pharynx, for the following reasons: 1. The air thus supplied to the lungs, passing over the diseased surfaces, is impure and often foul, and if it does not produce diphtheritic bronchitis it may cause bronchopneumonia of the type of "cut-throat lung." 2. The obstruction is often not only laryngeal, but also supra-laryngeal. 3. The local treatment of the nose and pharynx is very difficult owing to choking. 4. It is in this class of cases that the feeding of a laryngeal intubation case is so difficult. Intubation of the larynx should not be performed when one believes that there is membrane in the trachea. Here apparently easy breathing usually results for a time; but, whilst inspiration is relieved, the membrane acts like a valve over the end of the tube during expiration, and in this way extraordinarily rapid, acute insufflation of the lungs is likely to occur. I have seen a chest become in the course of eight hours extremely barrel-shaped, with cardiac dulness quite hidden. The expelling of membrane is extremely difficult and is usually attended by ejection of the tube. Dr. Collier would prefer to do intubation in all cases of primary laryngeal diphtheria which are unaccompanied by supra-laryngeal obstruction and which are without any evidence of the existence of membrane in the trachea—in all such cases, indeed, which were called until recently "membranous croup." Sometimes a case presents itself with signs of acute laryngeal obstruction sufficiently urgent that immediate interference is required, but without any evidence of membrane. Such a case usually turns out to be diphtheritic, but it may be a non-membranous laryngitis from measles, or perhaps from cold or some other cause. Notwithstanding the length of these remarks on intubation I have purposely omitted many points, and especially the more theoretical arguments for and against the measure. I have not, for instance, referred to the supposed danger of pushing membrane before the tube. The accident rarely occurs and it is no strong reason against the adoption of intubation in selected cases. Any surgeon who intubates must be prepared to do tracheotomy at once if necessary. Some enthusiastic supporters of intubation have perhaps made too light of many of the dangers and complications which may arise; they have advocated intubation as an entire substitute for tracheotomy in diphtheria, and doubtless they have caused many in consequence to distrust the method altogether. It is unfortunately true of nearly all new remedies that at first they are applied without discrimination by some and are totally ignored by others.

Before leaving the subject I will briefly refer to the more recent results and opinions in America and on the Continent. In the debate on intubation at a meeting of the Pediatric Society of America in 1890 Dr. Earle quaintly enters a protest against intubation by novices. After confessing his inability to perform the operation and his admiration for intubation when it is performed by practised hands, he says "that to his sorrow he knew that there were a certain number of people going around trying to intubate the larynx but killing the children, and that he had seen some of the most horrible, some of the most barbarous, surgery, attempted by people who thought that in order to be in the current they must intubate the larynx." On the other hand, Fletcher Ingal of Chicago remarks that "most writers allow that intubation is less difficult than tracheotomy—about the same as comparing passing a catheter with perineal cystotomy." L. S. Pilcher of Brooklyn, writing in the *Annals of Surgery*, December, 1892, says: "Granted that both tracheotomy and intubation equally relieve the stenosis of the larynx in diphtheria, which of the two is best adapted to assist the system in its struggles against the general infection by which it is threatened." After considering this question from the point of view of—(1) blood aeration, (2) general nutrition, and (3) local antisepsis, he comes to the conclusion that intubation answers the indication for surgical interference when a diphtheritic exudation has formed within the larynx and trachea much less perfectly than does tracheotomy, and that as a rule it should not be considered as a substitute for tracheotomy in such cases; but later on he adds: "In general I am persuaded that in future the very considerable prospect of relief and ultimate recovery which intubation can promise, though distinctly inferior to that held out by tracheotomy, will cause the non-bloody procedure to be often chosen, the aversion to the surgical wound being the controlling reason for making the choice." At the Pædiatric Society of America in 1891 Dillon Brown published 350 cases of intubation for diphtheria with 28·5 per cent. of recoveries. He stated that all modified O'Dwyer's tubes had radical defects and that every real improvement in the shape of the tube had emanated from the inventor. O'Dwyer devised in 1891 a hinged top to the tube with a sharp projection on the under side in order to render extraction of the tube possible by the nurse in case it became blocked and the string was not in use. Dr. Lovett of Boston, speaking of the relative merits of intubation and tracheotomy in the *Medical News* of August, 1892, stated that from December, 1886, to January, 1891, in the Boston City Hospital there were 392 intubations and 139 tracheotomies, intubation being the routine practice and tracheotomy reserved for the worst cases. Of the 392 intubations 80 recovered, or 20·41 per cent., the recoveries from tracheotomy being 11½ per cent. In three of the cases of intubation death occurred during the attempt to insert the tube. Twenty-one times when intubation was attempted tracheotomy had to be substituted owing to cessation of the breathing, and only two of these cases recovered. Two children died during choking fits and in two cases the tube was drawn into a bronchus and death resulted. Dr. Lovett considers that secondary tracheotomy is exceedingly fatal, for in the Boston City Hospital there were fifty-seven secondary tracheotomies with but five recoveries. He does not consider intubation to be so good an operation for saving life in severe laryngeal diphtheria as tracheotomy, chiefly because it does not drain the trachea so well. I have quoted Pilcher's and Lovett's opinions because they seem to represent the reactionary feeling in America against the universal application of intubation.

Francis Huber, in the *New York Medical Journal* of October, 1888, gives a table of ninety-four cases with 40 per cent. of recoveries; nine of the cases were under a year old, with four recoveries. He holds that recovery is probable if membrane be limited to the larynx without septic or other complication, and he advocates intermittent intubation—using small tubes.—so that they may be easily coughed out and replaced only if stenosis recurs. The following case is given as an example. In a child aged three years and three months the tube was on the first occasion retained for six hours, but it was then expelled with a cast. Four hours later it was reinserted and again ejected with a cast after ten hours. The condition of the patient was fairly good for four days and then an increase in the dyspnœa necessitated a third intubation. This time the tube was retained for twenty-four hours, when it was thrown out with another cast. The further progress of the case was favourable. Dr. Huber remarks that intermittent intubation offers the following advantages: Foods, medicine and stimulants may be administered in the intervals of intubation. If membrane exists, or is loose below the tube, there is less danger of occlusion, for the smaller tube is readily coughed out and with it the membrane. Dr. William Hailes of Albany, New York,[2] reports 100 cases with 38 per cent. of recoveries. One of his cases is especially interesting, of which the following is a short account: A child aged five years and a half was intubated on Oct. 24th and coughed up a cast of the trachea with the tube. The tube was replaced in a few hours, and on the 25th a second cast of the trachea was coughed up through the tube. On the 27th the tube again became obstructed with a third cast, which effectually blocked it and the child became cyanotic. The mother inverted the child and by means of her finger hooked out the tube. It was not found necessary to intubate again and recovery took place. The period of re-formation of membrane was about forty-eight hours. Some of the statistics from America are very encouraging, the improved results depending, no doubt, on various causes, such as increased experience, earlier intubation, greater mildness of epidemics &c. Thus Dr. Waxham in 1890 reported 60 cases with 46 per cent. of recoveries. Probably the general recognition of the necessity for early and continuous feeding is also an important factor. At first the difficulty of feeding in these cases was a great source of anxiety. Some practitioners gave only solid food, which the younger children refused. Forms of artificial epiglottis were tried, but they were found not to answer. Dr. Casselburgh of Chicago advises putting the patient's head lower than the body and states that fluids then can be easily swallowed. This method of drinking uphill

[2] Brit. Med. Jour., May, 1890.

has been employed when there is difficulty in swallowing after tracheotomy. It was, at the suggestion of Dr. W. Edmunds, in use at the Evelina Hospital in 1880. At the Kinderkrankenhaus in Amsterdam, of 230 children suffering from diphtheria 143 required surgical relief and were operated on ultimately by intubation and tracheotomy without regard to the nature of the case. The total number of recoveries was 51, or 34·7 per cent. Of those tracheotomised 30·3 per cent. recovered, and of those intubated 35·3 recovered. Dr. Ranke states that for Europe, of 413 cases which were intubated in Germany, Austria and Switzerland, 34 per cent. recovered. As to the danger of pressure necrosis from intubation German physicians are not fully agreed. Thiersch declares that erosions are unavoidable when the tube is long retained, but that they are generally superficial. Professor Escherich of Gratz, in a lecture given in 1891, whilst fully acknowledging the utility of intubation, does not consider it to be of equal value with tracheotomy. He deprecated exclusive treatment by either procedure, the character and location of the lesion in each individual case giving correct indications for the choice of operation. He considered that the cases which were suitable for intubation were those of primary diphtheria, limited to the larynx and pharynx, unattended with septic complications, and in which increasing laryngeal stenosis is occurring, with yet intact bronchi and lungs. He considered that intubation was likewise indicated as a temporary procedure in the presence of alarming dyspnœa when the risk of awaiting the completion of a tracheotomy is too great, and that it is also useful to mitigate the death struggle in hopeless cases. Dr. Muratt of the Children's Hospital at Zurich gives a list of 56 cases of intubation, with 21 recoveries, or 37½ per cent. In 18 cases, intubation having failed to give relief, tracheotomy was performed, and only one of these recovered.

(To be continued.)

THE RELATION OF THE ABUSE OF ALCOHOL TO MENTAL DISEASES.

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THE abuse of alcohol in its relation to insanity is often so intimately connected with previous coexisting or subsequent causes of mental disorder that, for its proper consideration, it cannot be entirely separated from them. In considering the relation of the abuse of alcohol to insanity, as suggested by the relation of cause to effect, it may be mentioned that in all text-books on mental disorders alcoholic intemperance has always been included in a list of causes of insanity. It is comparatively of late years, however, that the abuse of alcohol has been recognised to any great extent as the effect or symptom of insanity, and lately this subject has received a great deal of attention. There are abundant statistics to show that the habit of intemperance is often inherited. In all probability it is not a craving for alcohol that characterises this inheritance, but a neurosis the characteristic symptom of which is a want of inhibition or the power of self-control. A condition of perfect self-control under all circumstances is an ideal which can exist only in the imagination. Different people possess such inhibitory power in different degrees, the amount of such self-control depending to a certain extent upon hereditary influence and also to a certain extent upon the training and environment of the individual. A loss of self-control to a greater or less degree is noticeable in all mental diseases. There are certain mental disorders, however, of which its absence or diminution is one of the most characteristic symptoms. These are epilepsy, idiocy, imbecility and hysterical conditions. It is not surprising to find, then, that on the one hand the children of epileptics, idiots, imbeciles and hysterical persons often become addicted to intemperance, and that, on the other hand, the children of drunken parents are often epileptic, idiotic, imbecile or hysterical. More especially is this latter the case when the intemperate habit had been continued through two or more generations. One of the most noticeable effects of a prolonged excessive indulgence in alcohol is the loss or diminution of this inhibitory power. An individual may therefore by a vicious indulgence in alcohol so paralyse, as it were, his power of self-control that eventually he is really unable to abstain from such abuse when temptation occurs. At the same time that this loss of inhibitory power is being effected there is often established a craving, not for alcoholic liquors as a drink, but for the narcotic effect such liquors possess. A great distinction must be made between habitual drunkards and genuine dipsomaniacs, although at first sight they appear to be very similar. True dipsomania is a distinct nervous disease. It is recurrent, the period between the attacks varying from two to twelve months. As is the case with most other nervous diseases, there are distinct premonitory symptoms immediately preceding the outburst of the attack. These are a general restlessness of mind and body, with sleeplessness and considerable mental depression. The patient then, if unrestrained, drinks till he is intoxicated, falls into a restless sleep, on awakening from which he again drinks to intoxication, and goes on in this way for a week or fortnight. During this time the whole moral being is subordinated to the morbid desire, and no regard whatever is paid to truth, decency, or the ordinary duties of life. The chief differences between this and habitual drunkenness above referred to are: (1) It manifests itself irrespectively of temptation or other external influences; and (2) it is periodic. There is also a great difference as regards the prognosis. It is extremely doubtful whether a dipsomaniac is capable of being cured; the habitual drunkard can be. The length of time required to cure a habitual drunkard varies in proportion to the length of time the habit has been continued and to the extent to which the inhibitory power has been lost in consequence. For the cure of such cases it is necessary that the individual should be confined in an institution for the cure of inebriates and subject himself or herself entirely to the rules and regulations laid down by the authorities of the same. Entire abstinence from intoxicating liquors should be strictly enforced, suitable occupation should be provided and an attempt should be made to gradually build up the moral structure, which has been laid in ruins by the vicious habit. In course of time the power of self-control may be sufficiently re-established to enable the patient to go out into the world and continue to lead the regular life he or she has been accustomed to whilst under surveillance, even when exposed to temptation and adverse influences. In eastern countries, where indulgence in opium is a common habit, it has been observed that if a habit of excessive indulgence in alcohol is contracted the craving for opium ceases; and, *vice versâ*, if a habitual drunkard takes to opium-eating the desire for alcohol very soon disappears.

What has been said up to the present refers more particularly to the abuse of alcohol as a result of some disorder of the mind. I will now pass on to consider the part it plays as a cause of insanity. It is possible that in a few cases the abuse of alcohol alone is the cause of mental disease; but in by far the greater number of cases in which intemperance is assigned as a cause of insanity there are other concomitant causes at work. One of the most important of these, no doubt, is hereditary influence. Unfortunately it is often extremely difficult to ascertain with any degree of certainty whether there is hereditary taint or not. This is sometimes due to the ignorance on the subject of the patients themselves or their relatives, but more often to the great reluctance they have to reveal such a family taint. Be this as it may, it is most probable that in most of the cases in which intemperance is the only discoverable cause there is also some inherited neurosis, and for this reason: the number of lunatics in whom intemperance can be considered to play any part at all as a cause of their lunacy is altogether out of proportion to the number of people who are addicted to alcoholic abuse. It will be convenient to consider the action of alcohol as a cause of insanity under the following headings: (1) alcoholic abuse acting directly as a cause of insanity; (2) alcoholic abuse acting indirectly, through its action on the different organs and tissues of the body; (3) alcoholic abuse acting in conjunction with certain moral causes; and (4) alcoholic abuse acting in conjunction with certain physical causes.

1. *Alcoholic abuse acting directly as a cause of insanity.*—In the cases under this heading the mental derangement is due in a primary attack entirely and in subsequent attacks principally to the toxic action of alcohol on the nerve cells. It may be mentioned that such toxic action is in some cases due, to a great extent, to the presence of propyl, butyl and amyl alcohol as impurities. It has been suggested above that in all probability there is in most cases of insanity, in which alcoholic abuse acts directly as a cause, some hereditary

neurosis, though it may be impossible to ascertain definitely the existence of such. This is particularly the case in the mental disorders now under consideration. Probably the nerve cells are hereditarily predisposed to the poisonous action of alcohol. In the first attack the derangement is purely functional and the patient may recover completely, but is more than ever predisposed to the toxic action of alcohol. In second and subsequent attacks the mental derangement is principally functional; but the more numerous the attacks the greater liability is there to organic changes taking place in the cerebro-spinal nerve tissue, until finally the patient does not recover but develops symptoms characteristic of chronic alcoholism which will be referred to under the next heading. Various names have been given to the mental disorders caused by alcohol—viz., "mania a potû," "delirium tremens," "delirium ebriosum," "phrenitis potatorum," "folie des ivrognes" &c.; for my purpose the terms "acute alcoholism" and "chronic alcoholism" will suffice. Cases of acute alcoholism only are referred to under this heading. Such an attack may be caused by the consumption of a large quantity of alcohol at one time, or by repeated bouts of heavy drinking with intervening periods of temperance, or by a smaller but still excessive quantity acting on a constitution which has been subjected to starvation, prolonged exposure to cold, or debilitating disease. It is not necessary to describe the symptoms which characterise such acute attacks beyond just drawing attention to the suddenness of their onset, their intensity, and the rapidity with which recovery often takes place. Mention may here be made, however, of one or two interesting clinical features to be met with in cases of acute alcoholism. One of the most striking is the great resemblance there is between these cases and those of epileptic furor. Homicidal acts may be, and often are, committed in both these states, and the homicidal act may be one of two kinds. It may be the result of a sudden discharge of motor energy, resulting in most violent acts which are quite purposeless in character, so that it is a matter of chance whether such acts are directed against animate or inanimate objects, or it may be the outcome of delusions of suspicion or persecution, or of hallucinations of sight or hearing &c. It is noteworthy that although expression may be given to the delusion or hallucination at the time of, or immediately after, the homicidal act, when the attack has passed off, whether it be alcoholic or epileptic, the memory is a complete blank with regard to the crime and the delusion or hallucination which gave rise to it. There appears to be in these cases what must be considered a double consciousness. Cases have come under my notice in which after a lucid period of a few weeks immediately succeeding the recovery from the acute attack—a period during which the patient has given no indication of mental aberration—symptoms of subacute mania have suddenly been developed which gradually passed into chronic mania. The following case is an illustration of this.

A man during an attack of acute alcoholism killed a woman with whom he had been living for some years; he had had at least two previous attacks of acute alcoholism. No history of hereditary taint could be discovered. Immediately after the crime he gave expression to delusions as to the fidelity of the woman he lived with. He also had hallucinations of hearing voices saying, "I'll shoot you"; "I'll blow your brains out" &c. He was acquitted on the ground of insanity and detained as a criminal lunatic. Whilst awaiting trial in prison he recovered completely from the acute attack and on admission into the asylum he gave no indications of insanity. His memory was a complete blank as regards the circumstances of the crime and was very imperfect and confused with regard to things which occurred on days previously to it. Five weeks after admission into the asylum he developed delusions of persecution and wealth; he said he "was played upon with instruments, which caused him great pain"; that "the asylum belonged to him"; that "he was worth millions" &c. He has remained in this state from that time—a period of five years. There are other cases in which the patient, after recovery from an attack of acute alcoholism, has remained sane for periods varying from a few months to several years and then relapsed into a state of subacute delusional mania, the symptoms of which are very similar to those of the original attack, but less severe. These cases show a great tendency to recur and many of them eventually pass into chronic mania. In all these cases strict temperance, and, in some, total abstinence from alcohol, has been practised during the interval between the attacks, and in all of them I have been able to obtain hereditary history of insanity, and also of intemperance in many cases.

2. *Alcoholic abuse acting indirectly through its action on the tissues and organs of the body.*—First, with regard to the action of alcohol on nerve tissue, reference has been made above to organic changes which take place after repeated attacks of *acute alcoholism*. These organic changes are much more marked, however, in cases of *chronic alcoholism*. A condition of chronic alcoholism is caused by excessive alcoholic indulgence, which has been continued persistently over a long period of time. The pathological changes are fully described in Dr. Bevan Lewis' "Text-book of Mental Diseases." Speaking, generally, they consist chiefly in a considerable increase of connective tissue elements of the brain cortex, together with degeneration of nerve cells, more particularly those of the deep layers. The attack itself may come on very gradually, the first noticeable change being an alteration in the affective functions, which soon become so marked as to exhibit a sense of suspicion against those with whom the patient is in daily contact. At other times the attack is sudden in onset and follows immediately upon a freer indulgence in alcohol than usual. Distinct delusions of suspicion and persecution are soon developed, accompanied by hallucinations of one or more of the special senses. At first these are unstable, constantly changing and intermittent; and as long as this is the case there is hope of recovery. In many cases the delusions and hallucinations become fixed and constant, when recovery seldom, if ever, takes place, the patient gradually passing into a state of dementia. In chronic cases there are often superadded to the delusions of suspicion and persecution delusions of importance, grandeur and wealth; and these, together with certain paralytic symptoms, muscular tremors &c, cause such cases to present a great similarity to general paralysis of the insane. In these cases of chronic alcoholism homicidal acts are also common, prompted by the delusions of persecution, hallucinations &c.; but there is this great difference between these acts and similar ones committed by acute alcoholics that they never have the purposeless character which some of the latter have, and the patient's memory is always complete regarding the circumstances of the crime which he or she attempts to justify. Next, as to alcoholic abuse as a cause of insanity through its action on the viscera. A long-continued excessive indulgence in alcohol no doubt causes pathological changes in all the organs and tissues of the body. Some of these changes interfere with the physical health only of the individual; others often become intimately related with certain mental derangements. Of these latter, changes in the stomach and liver are most noticeable, and, although they may be caused by alcoholic excess of any kind, the consumption of large quantities of spirits is especially apt to induce them, more particularly if taken raw or with only a small quantity of water. The mental diseases most generally associated with these gastric and hepatic changes are hypochondriasis and hypochondriacal melancholia—really the same disease, the latter being an advanced stage of the former. Now, although hypochondriasis may be, and often is, unassociated with any organic disease whatever, in the majority of cases disease of one or more of the viscera is present and the viscera most often affected are the stomach and liver. It is not necessary to enter in detail into the anatomical changes to be found in the stomach and liver in these cases. They partake generally of a great increase in the fibrous tissue of the organs and a degeneration of the glandular elements. It is very common to find hereditary history of insanity in such cases, and the mental aberration is probably due to the more or less constant excitation of the hereditarily unstable nervous system by abnormal afferent nerve currents received from the nerve plexus, which is so intimately connected with these organs and which is composed of minute branches of the vagi and sympathetic nerves. Excessive alcoholic indulgence has also a very important and definite effect upon the bloodvessels. By its direct irritating action on their lining membrane, by altering the chemical constituents of the blood, by its interference with the vaso-motor nervous control, and, in consequence of the latter, by bringing about sudden changes in the blood tension and the resulting strain on the vessel, it ultimately causes those atheromatous changes to which the bloodvessels of the brain are particularly prone. Atheroma in itself is not necessarily pathological; it is one of those changes which occur in the process of physiological decay which accompanies old age. Pathological atheroma may occur at almost any age

after adolescence and is often caused by excessive alcoholic indulgence. *A priori*, one would expect to find that the symptoms of premature senility induced by alcoholic intemperance would be similar to those which are met with in cases of physiological senility, and, to a certain extent, this is so; that is to say, the symptoms which are dependent upon the alteration in the brain tissue, due to the atheromatous condition of the bloodvessels, are the same. But in the case of premature senility induced by alcohol there are, in addition to such symptoms, others which are dependent upon the direct action of alcohol on the nerve tissues. Atheroma of the bloodvessels of the brain may result (1) in atrophy of the brain, and (2) in softening of the brain. Atrophy of the brain is due to insufficient supply of blood, consequent upon the diminished lumen of the vessel, and upon the destruction of the elasticity of its coats. Softening of the brain is due to the blood supply being entirely cut off, by the formation of a thrombus in the vessel. The symptoms of the latter are practically an exaggeration of those of the former and partake of the nature of a general mental enfeeblement, varying in degree between partial and complete dementia. These symptoms are, as a rule, gradual in onset, and in some cases are the only ones to be met with. In other cases, in addition to these symptoms, there are those of mania or melancholia, consequent upon the action of alcohol on the nerve tissues themselves. The latter symptoms are usually sudden in onset and often recur again and again.

3. *Alcoholic abuse acting in conjunction with moral or physical causes.*—Strictly speaking, perhaps it is incorrect to speak of these two causes acting in conjunction with one another, but rather in relation of cause to effect. They, however, act and react on one another to so great an extent—the one sometimes being the cause, sometimes the effect, of the other—that the effects of both are combined in the causation of the ultimate result. For example, it must have been everyone's experience to have met with cases in which the mental depression caused by business anxieties, pecuniary difficulties, loss of relatives and friends or mental worry of other kinds has led to the habit of the excessive use of stimulants for the purpose of relieving temporarily such mental depression. Such relief, however, is but temporary; and when its effects have passed off the mind is more depressed than before, the result being that relief is again sought in alcoholic stimulation and the habit becomes confirmed. On the other hand, there are cases in which intemperate habits lead to ruin in business, alienation from friends and relatives, loss of self-respect and the mental disquietude consequent upon these. From a clinical point of view there is a difference in the type of insanity in these two classes of cases. In those cases in which the mental depression has led to a habit of intemperance, the symptoms are as a rule those of delusional mania and the delusions often lead to acts of violence. In those cases in which the mental depression has followed upon alcoholic excess and its results the symptoms are as a rule those of melancholia. In such cases acts of suicide and homicide are common and are altruistic in character.

4. *Alcoholic abuse acting in association with certain physical causes: (1) sunstroke, and (2) injury to the head.*—Although in many cases the recovery from sunstroke is so complete that no after effects are noticeable, yet in the majority of severe cases more or less distinct nervous symptoms, such as impairment of memory, nervous irritability, partial paralyses, epilepsy &c., remain permanent for the remainder of the patient's life. The pathology of sunstroke is at present not very definite, but, whatever it may be, there can be no doubt that it leaves a predisposition to insanity, and indeed in some cases it must be considered to be the sole cause of the mental disorder. One of the most common and noticeable changes in persons who have suffered from sunstroke is their extreme susceptibility to the effects of alcohol, and as a result of this a comparatively slight over-indulgence in it is often the exciting cause of insanity in them. Clinically, cases of this kind resemble in every respect cases of acute alcoholism. The effect of injuries to the head in their relation to alcoholic intemperance and insanity is practically the same as that of sunstroke; that is to say, there is often after injury to the head an extreme susceptibility to the effects of alcohol, so that a comparatively small quantity will cause an attack of acute maniacal excitement in every way similar to an attack of acute alcoholism. In many cases also there is a great change in the manner in which the emotions are affected in the early stages of intoxication; for example, one who formerly became hilarious and jolly under the effects of alcohol will, after having received an injury to the head, become quarrelsome and pugnacious under its effects.

The following statistics bear upon the whole subject under consideration. During the ten years ending Dec. 31st, 1892, there were admitted into Broadmoor Asylum 325 criminal lunatics. In the case of 86, or 26·46 per cent., of these alcoholic intemperance was assigned as a cause of their insanity. Of these 86, 30, or 34·88 per cent., had hereditary history of insanity, and 13, or 15·11 per cent., had hereditary history of intemperance. With regard to other causes in association with intemperance, domestic trouble, adverse circumstances, mental worry &c. were assigned as a cause in 14 cases, or 16·27 per cent. Sunstroke was assigned as a cause in 10 cases, or 11·62 per cent. Injury to the head was assigned as a cause in 9 cases, or 10·46 per cent. Previous attack was assigned as a cause in 20 cases, or 23·25 per cent.; of these, alcoholic intemperance was known to be the cause in 15 out of the 20 cases.

EXCISION OF SPINA BIFIDA.

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IN 1885 I reported at a meeting of the London Clinical Society a series of cases of spina bifida treated by excision of the sac, which treatment I advocated as being applicable to the greater number of cases calling for active interference. At the same time I showed patients who had been treated by this method. Attention was drawn to the following points: 1. The principle of closing the meninges by bringing together two serous surfaces, as in peritoneal surgery, and superimposing separate skin flaps, the meningeal and skin lines of suture not being opposite. 2. The great importance of observing strict antiseptic precautions, as a septic condition would probably end in the same way as these cases usually do when they spontaneously ulcerate—viz., by meningitis and convulsions. 3. The success attending the plastic operation in cases which are absolutely not amenable to any other form of treatment—e.g., when the coverings are thin or the opening into the spinal canal is large. At the same time I proposed the following classification: (1) Where an operation should not be done; (2) where an operation is not called for; and (3) where an operation should be performed.

CLASS 1.—Where an operation should not be done: 1. Where the deformity is very extensive, as in fissure of the whole or a considerable portion of the vertebral canal. 2. Where there is complete paraplegia. 3. Where the sac is large, the fissure extensive and the coverings are excessively thin quite to the edge of the tumour and no skin can be obtained to cover the meninges. But that such extreme cases may stand a chance of cure is proved by several cases successfully treated.

CLASS 2.—Nothing need be done where the sac is small and the coverings are so dense and firm as to form a good pad over the opening in the spinal column.

CLASS 3.—Where some operation should be done: 1. Where the sac only communicates with the spinal canal by means of a small opening. Here it is a simple matter to dissect off the skin, expose the neck of the sac, ligature it by means of one circular ligature and cut off the redundant meninges, bringing the skin over so as to have the line of skin sutures quite at the side away from the pedicle. 2. Where the sac has a good skin cover and communicates with the spinal canal by a large opening it is quite easy to carefully excise it and close the meninges, placing if possible the line of skin sutures away from the meningeal line of union. 3. Where the coverings are excessively thin quite to the edge of the tumour the operation is more difficult and uncertain, as the skin can only be obtained by a process of sliding from the contiguous parts and the tension necessarily present is not conducive to healing. 4. Where the spinal cord or the nerves are blended with the sac—a condition which cannot often be diagnosed until the dissection of the skin from the meninges is made—I have excised portions of the redundant meninges from between the nerves, replacing the nervous structures in the spinal canal and covering by a flap of skin; or, if this cannot be done, the membranes may be punctured, the collapsed sac with the nervous structures intact be placed in the canal, and the skin

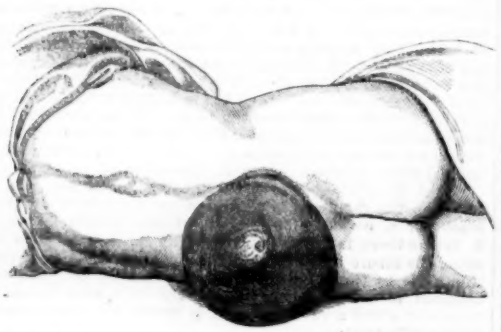
cover made as before. It is important to remember that a silver, or leather shield, should be worn over the site of operation in order to protect the parts from injury and to prevent the cicatrix from stretching or giving way.

The following extraordinary case, which was sent to me by Dr. McGregor of Huddersfield and reported by my late house surgeon, Mr. Basil Hall, affords a good illustration of the treatment of spina bifida by excision. Figs. 1 and

FIG. 1.

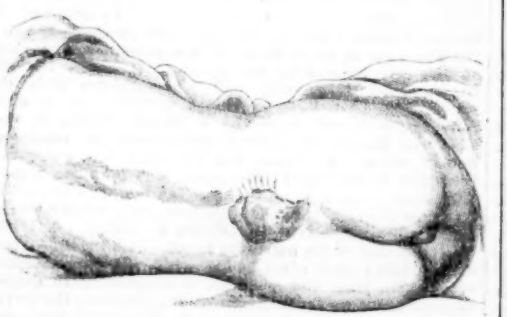
2 give a good idea of the enormous size of the tumour and Fig. 3 shows the appearance some weeks after operation. A man thirty-five years of age, residing at Mold Green,

FIG. 2.



was admitted to the Leeds General Infirmary on Feb. 26th, 1891, on account of an enormous spina bifida, which caused him to walk in a stooping posture and compelled him to

FIG. 3.



avoid crowded assemblies lest he should be injured. He stated that he had had the tumour all his life, but he had been told that it was at first only of the size of a walnut. There had never been any paralysis or discomfort of any kind caused by it, except a little tenderness when firmly pressed on. In November, 1890, the sac was accidentally ruptured and a thin watery fluid escaped; again, in December of the same year, and also in January, five weeks before admission, a similar accident happened, necessitating each time prolonged rest. The tumour had considerably increased in size of late. On admission it measured eighteen inches in circumference and was covered with thick skin near the circumference, but only by thin parchment-like membrane at the fundus. (See illustration). It was evidently filled with thin fluid and no trace of cord or nervous structures could be felt in the sac. Ether having been administered, an incision was made through the skin over the tumour and a flap was marked out of the integuments sufficient to cover the stump, the base of the flap being below. After this had been dissected off the membranes the sac was punctured and four pints of watery fluid (clearly cerebro-spinal) were removed. The sac was then dissected up from the surrounding tissue and the neck exposed and ligatured with chromicised catgut; the sac beyond the ligature was removed and the skin flap was adjusted over the stump and closed by interrupted sutures, no drainage-tube being employed. The wound healed by first intention except for a small point at the lower angle, and this closed by granulation. When the man was seen on April 3rd as an out-patient the wound was quite sound and there was no sign of bulging. He had walked several miles to report himself.

The case is of interest not only on account of the success of the treatment adopted but from the age of the patient, the enormous size of the tumour and the fact that the latter had been accidentally ruptured without inducing meningitis. From the considerable number of cases I have seen, many of which have been operated on, I cannot help thinking that meningocele is by far the most frequent form of spina bifida, and a continued experience leads me to state that the disease in nearly all cases that call for interference may be treated by excision of the sac, or some modification of this, with a great probability of success.

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THE DIAGNOSIS BETWEEN RÖTHELN AND SCARLET FEVER:

A LESSON AND A PROBLEM IN PREVENTIVE MEDICINE.

BY F. P. ATKINSON, M.D. ABERD. &c.

THE correct diagnosis between rötheln and scarlet fever is often a matter of very great importance and it is also one of extreme difficulty. When one refers to the various authorities on the subject the most conflicting opinions are to be met with. One says that the rash is like scarlet fever, another that it is like measles; one that it comes out with the fever, another that it appears two or three days after its commencement; one that it is ushered in with coryza, another that there is no coryza; and one that there is little or no desquamation, another that there is extensive peeling even of the hands and feet. With such diversity of opinion, how can the medical practitioner be expected to arrive at a correct diagnosis of these cases? One thing, I think, is certain, and that is that one must not rely either on the appearance of the rash or on desquamation; but there are two symptoms, nevertheless, which are well marked in nearly every case—viz., the initial fever is very short and the glandulæ concatenatæ are distinctly enlarged. It is more easy, of course, to detect the real nature of an epidemic when it occurs amongst a number of persons who are associated together in one dwelling than when they are scattered about in various localities, though at first, perhaps, even here the diagnosis may be somewhat doubtful. On June 7th of the present year I was called to see a boy aged twelve years at school, who had a somewhat dark, scarlatinal-looking rash on the neck and chest, a slightly ulcerated throat and enlargement of the glandulæ concatenatæ. The temperature was a little over 100° F. On the third day he was perfectly well in every respect, consequently the case appeared to me to be one of rötheln. By way of precaution, he was ordered to be kept in quarantine for two weeks, to have an antiseptic bath at the end of that time, and to be dressed in perfectly fresh clothes before being allowed to mix with the other boys. Unfortunately, one important direction was omitted—viz.,

that he should be properly inspected at the end of the isolation period, and this, I hope, I shall not forget should another like occasion arise. On June 14th—i.e., seven days after the appearance of the first case—another boy sickened, but as he appeared to be only slightly ill the schoolmistress did not think it to be necessary to call in any medical man, but kept him isolated in the same way and for the same time as had been done in the first case. On July 2nd one of the day scholars was attacked and in consequence was kept at home. The two medical men (partners) who saw him were for some time in doubt as to the nature of the illness, but subsequently they notified it as scarlet fever. The medical officer of health upon receiving this notification, and having heard that some of the other boys in the school had rashes, inspected all the remaining scholars on July 7th, and he found that the two boys who had been first attacked were peeling about the hands and that there were two others with a rash upon the neck, chest and arms. All of these cases he considered to be scarlet fever and immediately wrote to the parents of the boys (both boarders and day scholars) advising them to remove their children within twenty-four hours and offering to see to the disinfection of the clothing if they so desired. In addition to this he called attention, as it were, to what was in the first instance, according to his opinion, an error in diagnosis, and thus, thoughtlessly no doubt, ran a risk of imperilling the friendship which generally exists between members of the medical profession. His suggestion of stopping the attendance of the day scholars was a sound one, as the homes of these boys were not likely to be subject to greater risks than they were before; but as regards the boarders it appeared to me that the case was different, as it was impossible to know how many more might at the time be infected, and if after removal other cases should arise fresh foci would be developed and the disease might under certain circumstances assume much larger proportions. Had the house been sanitarily imperfect, and had fresh cases been breaking out daily, it might have been necessary to remove the pupils at once. On July 9th another boy fell ill, and also one on the 19th, one on the 21st, two on the 22nd, and one on the 23th. I distinctly declined to notify the last three as suffering from scarlet fever, and I gave my reasons for so doing. Of twenty-two boarders ten were attacked, and of the nine day scholars only one suffered. None of the mistresses, masters and servants—eleven in number—were affected. In every one of the boys the rash showed itself on the first day of the illness about the neck and chest. In one case a second measly-looking rash appeared on the second day of the illness on the back. There was no distinct coryza in any single instance, but in two cases the eyes were suffused and watery. The tongue in all the cases appeared to be normal. The first boy who was attacked had a slightly ulcerated sore throat, but the others only complained of a little roughness and irritation. The lymphatic glands of the neck were in each instance more or less enlarged and remained so even after convalescence was established. The submaxillary glands were in no instance affected. In no case was the temperature above the normal on the fourth day; in two, however (the result probably of the very swollen and tender condition of one of the lymphatic glands), it rose again—in one on the fifth day and in the other on the eighth day—but permanently assumed the normal in about a week—as soon, in fact, as the bowels, which had been previously constipated, became freely relieved. In one case there was no rise of temperature at all, and as a specimen of what it was in the others I will give three examples as follows: 1. July 19th, evening, 99·8° F. 20th, morning, 98·8°; evening, 98·8° 21st, morning, 98·4°; evening, 98·4°. 2. July 22nd, evening, 100°. 23rd, morning, 98·6°; evening, 100°. 24th, morning, 98·4°; evening, 98·8°. 25th, morning, 98·4°; evening, 98·4°. 3. July 22nd, evening, 99°. 23rd, morning, 98°; evening, 98·6°. 24th, morning, 98·2°; evening, 98·6°. 25th, morning, 98·4°; evening, 98·4°. In no single instance was there any kidney complication, though the first boy bathed twice and the second once in the Thames whilst they were peeling. The extent and character of the desquamation varied greatly. In two cases the skin came off in large flakes from the abdomen, whilst there was slight scaling on the neck, hands and feet. In another case there was only slight scurfiness and this was to be seen about the groins, knees and hands only. In yet another case there was slight peeling on the soles of the feet first and on the neck, chest and hands afterwards. Most of the others had slight peeling of the hands and feet, but scarcely any of the body. The great difficulty in the early part of the illness was to keep the boys in bed and satisfy them with food. On July 22nd I called in one of the medical men who had attended the only day scholar attacked to see the two boys who had sickened on that day, and after examining these and the convalescents he said that he felt inclined to alter the opinion he had previously formed.

As regards the diagnosis of cases of this character, I think that, besides the early subsidence of the initial fever and the enlargement of the glandulæ concatenatæ, the periods of incubation and infectivity will give some assistance. The report of the Clinical Society on this subject says, with regard to rötheln, that the twelfth to the eighteenth day after the cessation of exposure is the time at which the rash is most likely to appear in epidemics in schools when a patient is isolated as soon as the rash appears. In a few cases the incubation period is only eight or nine days, and in a small number it may be only five or six days. The quarantine period must not be less than twenty-three days. As regards infectivity, the patient is infectious two or three days before the rash appears and whilst it is out; but it diminishes rapidly and altogether ceases in a week in mild cases, and in the more severe when desquamation is over. In the former class isolation for a week, to be followed by a bath and disinfection of clothes, is recommended, whilst in the latter it is advisable for isolation to be continued for two weeks, to be followed by disinfection, in order to prevent the spread of the disease in schools. The infection does not appear to be long retained by clothes. With respect to scarlet fever the report remarks that the incubation period lasts usually between twenty-four and seventy-two hours; occasionally it is less than twenty-four hours. It is very doubtful whether it ever extends to eight days. When infection is conveyed by milk the period would seem to be two days or less. The infection period lasts from the onset of the symptoms until desquamation is complete and may still exist for eight weeks after the commencement of the disease. It is readily preserved and conveyed by fomites. A person who has been exposed to the infection of scarlet fever may, after disinfection of the clothes and other fomites, be pronounced to be safe if at the end of seven days he is free from fever and sore throat. It has been suggested that every medical man should study infectious diseases at the fever hospitals; but such cases as rötheln, being so short in duration, would be rarely seen and it seems to me that here the necessity of some sort of apprenticeship system clearly shows itself.

Surbiton.

NOTES ON CASES OF MYXŒDEMA.

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THIS cachexia being now so generally known, the following notes are limited to some special points.

CASE 1.—This was described in THE LANCET of June 16th, 1888, under the heading of "Case of Tetanic Spasms during Lactation in a Cretinoid Woman." At that time the patient was thirty-seven years of age and the mother of eight children. She has now had two more, and of the ten seven are alive and well, with the exception of the youngest, who has some enlarged glands in the neck, probably tuberculous; of the three deceased one died of dropsy and was probably also the subject of tubercle. In the interval the patient has suffered severely from the spasmodic affections above referred to, and according to her own statements these have had no relationship to either lactation or pregnancy. She says she has had lockjaw sixteen times and that yawning sometimes provoked an attack. Frequently her hands have been forcibly closed and rotated inwards and backwards, whilst the feet have been firmly contracted and turned inwards. Sometimes the eyelids have been shut for a day at a time, and even after they could be opened she often had fits of strabismus so badly that only the "whites" of the eyes were directed forwards, so that she remained blind as long as this condition lasted. At other times the rigidity would attack the lips and tongue, rendering her unable to utter a word for a day or two. These attacks were accompanied by dyspnœa, exhaustion and yawning, whilst the latter two symptoms, with drowsiness, would continue for a day or two longer. She further suffers from tremors when agitated, with occasional

dyspnœa. Before her penultimate pregnancy she stammered very badly in her speech, but it is noteworthy that this improved very much about the fourth month of pregnancy and that during the next (or last) gestation she had no "cramps." On examination, as far as actual swelling is concerned, the myxœdema has not progressed much since my previous report; it is mainly confined to the eyelids, lips, tongue and soft palate, with but slight supra-clavicular pseudo-lipomata. There is still no loss of hair, but in many respects the cachexia is very pronounced. The temperature in the axilla is 98·4° F. and there is profound anæmia. Menstruation has generally been too profuse of late years, but she has never suffered unusual loss of blood after parturition, although, as previously stated, she has often been severely drained of blood by hæmorrhoids. She has suffered from gastric disturbances (crises), and whilst kept under observation for a few weeks two of these occurred, attended with diarrhœa and vomiting of a very tenacious mucus, this being followed by abdominal tenderness, pain and swelling, simulating peritonitis, for several days, during which the temperature rose to 99·4°. At another time she was seized with a violent headache over the forehead and vertex, accompanied with a burning sensation in the eyeballs, which felt as if on fire. From the middle of May till early in July she was treated with doses of thyroid extract corresponding to from three to ten grains of the fresh gland daily, with marked and uniform improvement. For three weeks or so in July, however, during my absence, she was unfortunately not supplied with the extract, and in the beginning of August she had a similar gastric attack to those already mentioned and felt generally not nearly so well. As mentioned in my former report, the symptoms came on after a severe flooding (from miscarriage), and on further inquiry it appeared that this had been excessively copious, as she was said to have been unconscious for ten hours from loss of blood. The spasmodic symptoms may be compared with those following total extirpation of the thyroid gland in dogs and monkeys, as described by Professor Victor Horsley.[1] In a case of operative myxœdema (cachexia strumipriva) similar tetany and afterwards tonic spasms of nearly all the voluntary muscles of the body occurred and a fatal result ensued (case of Dr. Wolkowitch, Kieff).[2] In another of the same surgeon's cases mild symptoms of the same kind were observed. Dr. Ord states that tremors and contractures have been recorded in several cases of the idiopathic affection.[3] Profound anæmia seems to play a part along with myxœdema in producing these severe neuro-muscular disturbances.

CASE 2.—A female, unmarried, aged seventy-one years and four months. It appeared on inquiry that the disease came on shortly after the menopause at forty-five and that the menses had been too profuse for six or twelve months before this and had weakened her considerably. There was no history of poverty or excessive grief. Her mother died at fifty-six years of age, but her father lived to the age of seventy-six, and she had had four brothers and five sisters, all of whom had lived to considerable ages, whilst the patient herself had been a strong and healthy girl. I was first summoned some months ago on account of a fall which she had sustained the night before; this had been a frequent occurrence, and on a previous occasion the left arm had been severely injured. It was evident that she had been walking of late with excessive difficulty, and this time she fell on the left haunch, and although there was no visible injury the corresponding limb has been quite disabled since. Of course she was now in the atrophic stage, but the case was very marked. In view of the fact that 50 per cent. of advanced cases have been subject to delusions, hallucinations, or even actual insanity, it is important to remark that this patient is remarkably intelligent. Special features in her case are: great deafness; total blindness for three or four years owing to double cataract; loss of taste in the mouth and a burning feeling in the left side of the tongue, which is much swollen, as also are the uvula and eyelids. For several months she has been taking the extract, equivalent to five grains of the fresh gland daily, until of late, when the dose has been reduced to three grains. Whenever she complained of nausea the remedy was discontinued for a few days. Dysphagia, which had been considerable, was soon relieved; all swelling is now gone except a little in the tongue; the pink patches on the cheeks and nose have disappeared; the sense of taste has improved, as also has the hearing, and there has been no complaint of the burning sensation in the tongue of late. Might the operation for cataract now be performed?

CASE 3.—The patient was seen in consultation with Dr. James Campbell. She is married and the mother of a family. There were cachexia of about three years' duration and very considerable myxœdema, with profuse menorrhagia for some years, which had proved intractable under every form of treatment. She was treated by tabloids, the largest dose administered being one twice a day (ten grains of the fresh gland daily), and within three months the result might well have been termed "rejuvenescence." Two points are especially noteworthy: (1) the first menstrual period after treatment was commenced was less copious than previously and the second was described as normal; whilst (2) the complexion of the patient had undergone a marvellous improvement. At a recent discussion in Edinburgh it was stated that the tawny yellow colour of the skin persisted after treatment, but I regard this case as proving that this is not always so, and much may be due to the previous duration of the case.

As showing how characteristic are the features of myxœdema I may here state that the two following cases (besides a third one, which will only be mentioned) were brought to my knowledge by the registrar of Partick, who recognised them merely from having seen the patient referred to in Case 2 and some photographs and engravings in my possession.

CASE 4.—A married woman aged thirty-seven, the mother of eight children, and now (May 31st) suckling the youngest, a baby of ten weeks. Menstruation began at fifteen years, but was always scanty; at twenty, on the first day of a period, the flow was suddenly checked by a chill and her whole body soon afterwards swelled up so rapidly that in a week or two, if not even in a few days, the œdema was very considerable. Simultaneously the appetite failed, and she became so feeble that she had to give up her situation and go home; she always felt cold—like "ice down the throat and stomach"—and she was so drowsy that she could have slept almost continuously. At the same time, however, she says there were no loss of hair, no dryness of skin and no change in the complexion. This state of matters lasted for six months, and she was treated for dropsy; at the end of this period the menses reappeared and she gradually recovered. Nevertheless, for some years afterwards and before her marriage she remained very weak and could hardly go up a stair; her lips were swollen and every effort made them moist. The first pregnancy improved her strength, and she has been stronger ever since. She always feels in better health during pregnancy, and her lips are then never swollen. She lost much hair for nine months or so after every labour and it afterwards gradually grew again. Almost immediately after her last confinement her head, face, eyes and lips swelled, but this has lately diminished. When they were swollen she was liable to headaches, often had toothache, and lost two or three teeth after every child was born. During her present lactation she has had headache and vomiting. Instead of there being dryness of the skin she perspires rather freely, but she says that she had a scaly skin some years ago. On examination the lips were found to be much swollen and moist, the lower one being everted; there was fulness below the eyebrows and of the neck below the chin; and the tongue, soft palate and uvula were swollen, the latter also presenting reddish streaks. The eyebrows were thin and the eyelashes short; the hair of the scalp was very scanty, but instead of being coarse and brittle it was exceedingly fine and delicate, whilst there was no scurf on the skin. In other respects there was quite a contrast to most cases of myxœdema—no yellow tint, no pink patches—and the skin was everywhere naturally soft and moist. However, she is by nature slow in her movements and mentally dull, so that her history was difficult to elicit. Her memory is defective; she says "she has no memory at all." The temperature in the axilla was normal. After taking doses of the extract equivalent to three grains of the fresh gland daily for two days she declared that it caused headache and giddiness and she ceased to take it; on afterwards being persuaded to resume it, however, she soon felt benefit and in a few weeks the swelling had disappeared, except a little in the lower lip, and she could now go upstairs with ease.

CASE 5.—A woman aged fifty-seven who had been twice married. She has had no children. She was first married at sixteen, although menstruation did not commence till she was eighteen. The flow was always scanty, and in this and other

[1] Report of the Committee of the Clinical Society of London on Myxœdema, pp. 68, 81 et passim.
[2] Op. cit., p. 152. [3] Op. cit., p. 179.

respects she gave evidence of a delicate constitution. There is a history of deep grief, but not of privation. She says that the swelling came on after a pleurisy fifteen years ago which confined her to bed for six weeks, but did not reduce her much. Soon afterwards her eyelids, and in a short time her whole body, gradually swelled, and this went on slowly for years during which she became more and more feeble. As nearly as could be ascertained it was about the same time that menorrhagia commenced, and from this she suffered severely. For some years there was a flow every day and so great was the exhaustion from these distressing evils that about seven years ago she was thought to be dying. There had been no catamenia for some years past, and she believes that the hæmorrhage was checked by treatment. There is still some swelling, but the atrophic stage is well marked. There is no desquamation, which she declares has never been noticed. The pink flushes on the cheeks and nose are the most vivid I have seen; there are marked incoördination and paresis, leading to staggering in gait, stammering in speech, and of late obliging her to hang the head so as to rest the chin on the sternum; there is considerable impairment of hearing. The temperature in the mouth was 97·2°. The treatment was interesting with respect to dosage. In view of her frail condition only one-fourth of a tabloid was ordered three times a day, equivalent to three grains and three-quarters of the fresh gland daily. Her appetite improved during the first week, but towards the end of the second she experienced a peculiar sense of weakness and at the beginning of the third week she was sick for two days, with occasional vomiting, and the remedy was discontinued during this time. Next morning she took one-fourth of a tabloid, and on the same day I visited her. Although, as will have been seen, she had taken none of the remedy for two days, except the dose in the morning, I found the temperature in the mouth to be 98·4° (previously 97·2°). The improvement was astonishing, the pink patches having disappeared. She was ordered to take one-fourth of a tabloid daily in the meantime.

CASE 6.—This was the third of those shown me by the registrar and was one of very considerable myxœdema with a few exceptional features the treatment of which has just been commenced.

CASE 7.—I will barely allude to this case and only in its bearing on menorrhagia. I encountered the patient accidentally, and on entering into conversation with her I ascertained that she was fifty-one years of age, the mother of thirteen children, and that she had suffered from profuse menorrhagia until a few months previously. I found her quite incredulous when I tried to convince her that her case was now curable and she positively refused to have "any experiments." I observed that she could scarcely walk.

At the moment of writing an eighth case has come under my observation, and in a male, the first of the kind I have seen. In addition to these I have had some cases lately which are probably betraying some initial symptoms of myxœdema, and altogether I have been much impressed with the apparent prevalence of this affection to an extent which I little dreamt of.

I will only briefly comment on the above cases in reference to pregnancy and menorrhagia. Case 1 and, notably, Case 4 show the beneficial influence of pregnancy on the cachexia, as noted by the London Committee. The patient in the latter case, indeed, emphatically stated that marriage and child-bearing had saved her life. The committee fully recognise the influence of the affection in giving rise to hæmorrhages, as from the mouth, nose, &c., and from the uterus after parturition, but, whilst they make mention of exhausting discharges as being sometimes a cause of myxœdema, I find no reference in their report to menorrhagia as a consequence. The above cases, I think, show this relationship clearly and point to the importance of looking for signs of myxœdema in intractable cases of uterine hæmorrhage without apparent cause. The effect of treatment in Case 3 is specially interesting. Whilst on this subject it is hard to refrain from awarding a due meed of praise to those who have been pioneers in the clinical observation and experimental research which have resulted in placing such a power in the hands of the profession and bestowing such a boon on humanity. It is one more triumph, proving, if further proof were necessary, that those who oppose such observation and research are beyond the pale of reason.

Partick, Glasgow

REMARKS ON

THE MORTALITY AND CAUSES OF DEATH AFTER EXTIRPATION OF THE BREAST FOR CANCER.

BY W. ROGER WILLIAMS, F.R.C.S. ENG., L.R.C.P. LOND.

CRITICAL inquiry into the comparative results of extirpation of the breast for cancer shows that modern operations—notwithstanding their increased severity—are attended by a smaller mortality than was formerly experienced, when far less extensive operations were done. That this gratifying result is attributable to the improved methods of wound treatment which have come into use since the introduction of Listerism the following figures prove: Of 167 hospital extirpations done by Velpeau[1] prior to 1854, 32 were fatal, or the mortality was 19 per cent.; of 305 similar operations done by Billroth[2] prior to 1877 the mortality was 15·7 per cent. Thus in these 472 non-antiseptic operations the mortality was nearly 17 per cent.

The results obtained by the earliest antiseptic operations are much more favourable than this. After 53 mammary extirpations by Lister[3] (1871–80), in the majority of which the axilla was also cleared, 4 patients died, or 7·5 per cent. After 110 similar operations by Voldkmann[4] (1874–77), in 75 of which cases the axilla also was cleared, 6 died, or 5·4 per cent. After 68 antiseptic extirpations by Billroth[5] (1877–79), in many of which the axilla also was cleared, 4 died, or 5·8 per cent. Thus in these 231 strictly antiseptic breast extirpations the mortality was only 6 per cent. The causes of death in the 14 fatal cases were as follows: Septicæmia in 4; erysipelas, 3; shock, 3; exhaustion, 2; hæmorrhage, 1; and anthrax, 1. Recent operators have had still better results, for Gross' latest mortality is only 3·7 per cent.; Gussenbauer's, 2·8; and Küster's, 2·5. Referring to these progressively favourable results Billroth says: "I should not be surprised if an experienced operator were to succeed in doing 100 consecutive extirpations with but a single death."

The superiority of strict Listerism over other less carefully devised antiseptic methods is shown by the following data, which I have compiled from the registrar's reports of four large metropolitan hospitals. At the Middlesex Hospital during the years 1882–89 the breast was extirpated 100 times for primary cancer, with 10 deaths. At St. Bartholomew's Hospital during the years 1886–90 157 similar extirpations were done, with 15 deaths, or 9·5 per cent. At University College Hospital during the years 1884–89 94 extirpations were done, with 9 deaths, or 9·5 per cent. At St. Thomas's Hospital during the years 1886–90 138 operations were done, with 12 deaths, or 8·7 per cent. Thus at these four hospitals 489 mammary extirpations were performed for cancer, with 46 deaths, being a mortality of 9·4 per cent. In nearly all these cases some form of antiseptic treatment was employed other than strict Listerism. The figures show the marked superiority of the results thus obtained over those of pre-antiseptic methods, and at the same time they demonstrate the superiority of true Listerism over other forms of antiseptic treatment.

Mr. Butlin[6] is averse to clearing the axilla in every case of mammary cancer destined for operation because of the greater mortality thus entailed, which, he says, is much more than twice as great as when the axilla is not opened. I think he has over-estimated the danger of this proceeding, for of the above 489 hospital operations in 332 the axilla was cleared as well, with 36 deaths, being a mortality of 10·8 per cent., whilst of the other 157 cases operated upon—in which the diseased breast alone was removed—10 died, or 6·3 per cent.

An analysis of the causes of death in the above 46 fatal cases gives the following results: Septicæmia, 14 cases; erysipelas, 9; pyæmia, 6; pleurisy, 2; pneumonia, 2; bronchitis, 2; shock, 2; and 1 each as follows: traumatic delirium, syncope, suppuration in the anterior mediastinum, secondary hæmorrhage, acute recurrence, peritonitis (perforation), exhaustion, mania and renal disease. Thus, of these 46

[1] Traité des Maladies du Sein, tome ii., p. 151. Paris, 1854.
[2] Deutsche Chirurgie, Lieferung 41, p. 155.
[3] W. Cheyne: Antiseptic Surgery, 1882, pp. 373 and 382
[4] Op. cit., p. 388. [5] Op. cit., p. 155.
[6] Operative Surgery of Malignant Disease, 1887, p. 371.

deaths 29, or 63 per cent., were indubitably due to septic disease. In most of the above cases the disease began as erysipelas.

Velpeau[7] relates that after his 235 breast extirpations for cancer 54 patients were subsequently attacked by erysipelas, or 23 per cent., whereas after 395 of the above hospital operations only 40 were subsequently thus attacked, or 10 per cent. This shows that the liability to septic disease has been much diminished by antiseptic treatment. The supervention of erysipelas after mammary extirpation is an exceedingly grave complication, for of 40 cases thus attacked I have found that 20 ended fatally.

Preston, Lancashire.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL AND THERAPEUTICAL.

A NEW PHYSICAL SIGN FOR THE EARLY DIAGNOSIS OF CROUPOUS PNEUMONIA.

BY F. H. MORISON, M.B., C.M. EDIN., D.P.H. R.C.S.I.

CROUPOUS PNEUMONIA is, I believe, one of the commonest of the acute chest diseases of children which a practitioner is called upon to treat. This statement is based upon a careful examination of many cases, commonly called bronchitis or broncho-pneumonia, which accurate records of temperature and the after progress have proved to be croupous pneumonia. The various writers I have consulted are agreed that the physical signs of pneumonia in both adults and children are impaired resonance on percussion or fine crepitation on auscultation, and that in children especially there is no definite physical sign till the disease is well advanced. The early diagnosis is thus as difficult as it is important. Dr. Francis Moinet, in "Keating's Cyclopædia of Diseases of Children," says: "In not a few cases no satisfactory results are obtained by auscultation and percussion until a comparatively late period owing to the limited extent of the affected region and its position in the centre of a lobe surrounded by healthy lung tissue." In several cases recently seen where the general symptoms of pneumonia were present but none of the ordinary physical signs I have discovered what I am venturing to describe as a new physical sign. On careful auscultation of the chest I have heard jerky expiration over a limited area and on noting the position of this area have found developed in it subsequently the usual signs of pneumonia. This jerky expiration is the first physical sign developed and can be heard soon, if not immediately after, the rigor, before dulness or crepitations appear. It is much more distinct in children, but I have also heard it in adults. The following cases sufficiently illustrate what I wish to point out, though I have notes of several others: 1. A girl aged four years was first seen by me about 9 P.M. on April 29th of this year. Her mother stated that she was seized with a shivering fit about 12.30 P.M. on the 28th, having been previously quite well. Her hands were cold and she was drowsy and thirsty. There was pain in the limbs in the afternoon and her breathing was short. She became delirious about 9 P.M. When seen by me on the following day her breathing was very rapid. She had a slight cough and a very quick pulse. The temperature was 104° F. Except that expiration all over the right base was markedly jerky, nothing abnormal was found in the chest. On the 30th her temperature was 102°. The physical signs were the same. On May 1st there were slight dulness on percussion and fine crepitation over the right base. The pneumonia ran a normal course and the patient made a good recovery. 2. A young man aged twenty was first seen by me on April 3rd of this year. He complained of pain in the right side and shortness of breath. On April 1st he became very heated whilst playing at football and during the following night he had a rigor. His respiration was rapid, the pulse was quick, and the temperature was 103 4°. Except for jerky expiration at the right base posteriorly there was nothing abnormal on examination of the chest. Pneumonia was diagnosed at the right base. This was subsequently verified by ordinary physical signs. The disease ran a typical course, although convalescence was somewhat prolonged.

[7] Op. cit., p. 652.

Dr. Douglas Powell, speaking of pneumonia in his book on "Diseases of the Lungs," says: "The breath sound at one base has, however, at a very early period a peculiar rough, harsh quality, very like that of exaggerated breathing, and slight crepitation may be audible." The explanation of this jerky expiration I am not prepared to offer, but suggest that it may possibly be due either to the primary congestion interfering with the elasticity of the lung, thus making the expiration puffy or jerky, or to propagation of the heart beat through a more readily conducting medium than the healthy lung. I am more inclined to think that the former explanation is the correct one, because it is difficult to see how the heart beat could so much affect the air leaving the right lung, and I have been unable to satisfy myself that the rhythm of the jerk corresponds with the cardiac impulse. Further observation will show how much value is to be attached to this sign, but I note it with the hope that it may prove as useful to others as it has been to me.

West Hartlepool.

LARGE TUMOUR OF THYROID GLAND; REMOVAL; RECOVERY.

BY M. P. MAYO COLLIER, M.B., M.S. LOND., F.R.C.S. ENG.

TUMOURS of the thyroid gland, apart from general enlargements classed under the headings "bronchocele" or "goitre," are sufficiently rare to warrant my offering the following somewhat remarkable case for notice.

A single woman aged thirty-eight consulted me about seven months ago for a swelling in the throat, accompanied with some difficulty in breathing. She was very pale and anæmic, but not of spare habit. A median enlargement of the thyroid gland was apparent. The larynx was normal, but a distinct flattening of the trachea could be made out below. The growth was limited to the isthmus and was firm and closely adherent to the trachea. Removal by operation was advised as the only means of mitigating permanently the dyspnœa. This was refused and the patient was lost sight of till quite recently. One month ago the growth had invaded the neck in the mid-line to an enormous extent, had dislocated the trachea and larynx on to the left carotid vessels, and had pushed the œsophagus to the right, causing some difficulty in swallowing; further, the tumour had descended into the thorax behind the sternum and invaded the whole of the space between the apices of the lungs and the base of the heart as far posteriorly as the vertebral column. Dyspnœa was most urgent at times, necessitating something being done as soon as possible. After a consultation with Mr. Bernard Pitts the patient was sent into St. Thomas's Home, and there, with Mr. Pitts' and Dr Edmunds' assistance, the growth was completely removed. Not much difficulty was experienced, the growth shelling out of its bed with comparative ease. Very free hæmorrhage was our chief trouble. On section it was found to be a solid growth composed of thyroid-like tissue, dotted with several cysts containing blood-stained serum. The patient has done well and is now convalescent.

New Cavendish-street, W.

HOSPITAL SATURDAY AT BRIGHTON.—The inhabitants of Brighton on Saturday, Sept. 16th, made special efforts on behalf of the Hospital Saturday Fund. Flowers, bunting, and mechanical contrivances were used with a lavish hand to attract the benevolent and much help was rendered by the railway companies, who afforded facilities for collecting on their platforms, and by the shopkeepers of the town. The subscriptions from the very poor showed how well the fund was appreciated by those for whose benefit it was mainly inaugurated.

PRESENTATION.—On the 7th inst., at the Police Seaside Home, Hove, Dr. F. J. A. Waring was presented with a well-finished picture of the Home, of which he is the hon. physician. The presentation was made by Inspector Weidner on behalf of the subscribers, and in the course of his remarks he spoke of the skill and kindness manifested at all times by Dr. Waring to the patients under his care, as well as of the urbanity shown by him to all with whom he was brought into association. Dr. Waring, in returning thanks to the donors, said he should always look upon the picture as recalling some of the happiest events in his life

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Procemium.

UNIVERSITY COLLEGE HOSPITAL.

CHRONIC PERITONITIS; INTESTINAL OBSTRUCTION; GREIG-SMITH'S OPERATION; RECOVERY; REMARKS.

(Under the care of Mr. BILTON POLLARD.)

CASES of intestinal obstruction present an ever varying aspect and are of never failing interest to both surgeon and physician. In the following case there are several unusual features—the history and mode of onset of the illness, the condition of the intestines as found at the operation, and the success of the method of operation employed. The account of the case shows the skilful adaptation of treatment to the necessities of the patient, and will bring prominently before the profession an effectual means of help in a similar emergency.

A man thirty-four years of age was admitted to University College Hospital on Dec. 25th, 1892, on account of intestinal obstruction. There was no family history of tubercle. His parents and his brothers and sisters were all alive and well. At the time of admission the patient could not think of any previous abdominal trouble from which he had suffered; but during the operation, whilst the contents of his intestines were being drained away, he remembered that when he was eleven years old he had dropsy of the abdomen, which lasted for about a year, and which had been treated by liniments, blisters and ointments. Ever since then he had been liable to constipation and he had been in the habit of taking a purgative pill once a fortnight. His present illness began on Dec. 22nd, 1892, with pain in the abdomen, chiefly in the left iliac region. His bowels had not been opened since this date, but flatus had been passed daily up to the 24th, though only after an enema had been given. Vomiting began on the 22nd, and had been repeated four or five times a day since. On admission the abdomen was uniformly distended, and there was tenderness on firm pressure in the left iliac region. The abdominal muscles moved freely during respiration, the intestinal coils were not outlined on the abdominal wall, and the abdomen was resonant all over. Rectal examination revealed nothing abnormal. The temperature ranged from 99° to 100° F. The urine was passed naturally and it was normal. There was no hernia. The patient was seen at 9 P.M., but as he had not vomited since admission it was decided not to interfere. At midnight he vomited half an ounce of fluid which looked like bile. He was sick again at 2 A.M. and 6 A.M., and on the latter occasion the vomit was copious and distinctly stercoraceous. At 10.30 A.M. on the day after admission he was anæsthetised and Mr. Pollard opened the abdomen in the middle line by an incision which eventually extended from three inches above the umbilicus to two inches above the pubes. About half a pint of clear serous fluid without flakes of lymph escaped. The small intestines, together with the cæcum and ascending colon, were found to be matted together into one mass by firm old adhesions. The sigmoid flexure was empty. A very thorough exploration failed to detect any cause for the obstruction other than the general matting together of the intestines and paralysis of their walls from over-distension. No tuberculous deposit could be either felt or seen. The intestine could not be brought out of the wound. A coil lying in the middle line was selected for the following operation. The abdominal wound was sutured with thick and fine silk stitches with the exception of two inches just below the umbilicus. Two sutures, one above and one below, traversing only the serous and muscular coats, were inserted and used to draw the bowel forward into the wound. These sutures were, at the suggestion of Mr. Barker, who gave valuable help during the operation, tied over pieces of indiarubber tube, which bridged over the wound and were left in position. The wound was packed all round with wool sponges, and over all an apron of boracic lint, with an aperture in the centre, was placed. Through this opening the rest of the operation was performed. A longitudinal incision about one-third of an inch in length was made through the serous and muscular coats of the bowel and the mucous membrane was then perforated with a large-sized trocar, to which a piece of india-rubber tubing had been attached. A vacuum was created in the tube by drawing it out through the fingers and thus the flow of liquid fæces was started. The anæsthetic was discontinued. Up to 12.30 P.M. a pint of fæces and a good deal of gas escaped. Mr. Pollard now transferred the patient to the care of a dresser, who held the trocar in position till Mr. Pollard's return at 5 P.M. By this time half a pint more fæces had escaped. The mops were now removed, the wound was washed with perchloride of mercury lotion (1 to 2000), the trocar was removed and the bowel was sutured. Three Lembert's sutures were used to close the incision in the serous and muscular coats, and an additional stitch was placed at each end immediately beyond the wound in the gut. The tethering sutures above referred to were left in position. The surface of the gut was again cleansed and dusted with iodoform. The abdominal wound was not closed any more. A dressing of cyanide gauze and sal alembroth wool was applied. Nothing was given by the mouth during the night with the exception of ice to suck. A nutrient suppository was given every four hours.

Dec. 27th (the day after the operation).—The patient was sick, but the vomit, which resembled bile, was free from stercoraceous odour. At 11.30 A.M. the sutures closing the wound in the bowel were removed, and the aspirator needle was again inserted and left in until 5 P.M. Only two ounces of liquid fæces escaped. During the afternoon the patient several times vomited watery fluid. At about 6 P.M. flatus was passed per rectum.

28th.—At 12.30 A.M. the wound in the bowel was again opened and much flatus and about an ounce of liquid fæces escaped. Flatus had been passed freely per rectum during the night and slight sickness had occurred. The tongue is clean and moist, the temperature is 99° and the pulse is 84. One drachm of peptones to be given every hour, and an ounce and a half of prepared food every four hours. In the evening the bowels acted twice. The motions were copious and soft. At midnight the bowel was again opened and flatus and a little bile-stained mucus were evacuated.

30th.—There has been no return of sickness since the night of the 28th, and the bowels have acted twice, the motions being formed.

Jan. 1st, 1893.—The patient has been progressing well. His thirst, which had been very great, has been relieved by enemata of warm water. A tiny fistula was left at the spot where the bowel had been punctured, and through this flatus and a little bile-stained mucus occasionally escape. The following diet was ordered: two ounces of prepared food and two ounces of a cold infusion of minced raw meat, to be given alternately every four hours; the lean part of an underdone chop to be masticated but not swallowed.

The patient progressed steadily. The chief drawback was recurring constipation. This was most effectively combated by cascara sagrada and enemata. The diet was gradually increased, and on Jan. 25th minced meat was allowed. The wound was completely healed on Feb. 10th, and on the following day the patient was discharged. He was seen again on March 27th, after having spent a month at the seaside. He was in excellent health; his bowels were operated daily without aperients or enemata. The scar was sound.

Remarks by Mr. BILTON POLLARD.—This case is a good instance of the value of Mr. Greig-Smith's method of dealing with cases of intestinal obstruction which are not amenable to more radical treatment; and, indeed, in this case it was the most radical method which could have been adopted. It was clear, after thorough exploration of the abdomen, that the obstruction was due primarily to the matting together of the intestines; the latter had gradually become more and more distended until finally paralysis of peristaltic movement had occurred. By tapping the intestine repeatedly and giving vent to flatus and fæces and by judicious dieting time was allowed for the bowel to recover sufficient tone to force its contents along, notwithstanding the presence of a slight though permanent source of obstruction. Although the case did not permit of really radical treatment, the method employed sufficed to restore the condition of things which had existed previously

to the onset of acute obstruction; and now that the cause of the obstruction is known it will be possible, by judicious dieting and by the timely use of medicines, to prevent its recurrence.

LEICESTER INFIRMARY.

ACUTE INTESTINAL OBSTRUCTION OF TRAUMATIC ORIGIN; OPERATION; RECOVERY; REMARKS.

(Under the care of Mr. GEORGE COOPER FRANKLIN.)

THIS case is of much interest and importance as it demonstrates the possibility of the rapid occurrence of an acute mechanical obstruction of the bowels after abdominal injury. The patient, apparently in good health at the time of the injury to the abdomen, developed severe abdominal pain on the fourth day afterwards, vomiting on the seventh day, and when the abdomen was opened on the ninth day on account of the urgency of the symptoms, a definite constricting band of new formation was found, the division of which sufficed to relieve the obstruction. The successful result, as pointed out by Mr. Winfield-Roll in his remarks, was in a largemeasure due to the prompt action of the surgeon. We do not often meet with these obstructing bands as the result of a subcutaneous injury to the abdominal contents; they are more common after operations for pelvic disease or hernia. For instance, Dr. Krug of New York has recorded a case in which it was necessary to operate for intestinal obstruction a week after an operation for double pyosalpinx and ovarian abscesses, the obstruction being due to the formation of firm adhesions between bowel and pedicle. For the notes of this case we are indebted to Mr. G. Winfield-Roll.

A man aged thirty-two was admitted to the Leicester Infirmary on July 25th of this year, suffering from acute intestinal obstruction. On July 17th, whilst at his work, he fell from a ladder, a distance of twelve feet, on to a boy, whose femur was fractured and who also was treated in the infirmary. In his fall he received a severe blow in the abdomen, which "doubled him up" completely. On the fourth day after receiving this injury he began to suffer from great abdominal pain. On July 23rd severe vomiting developed, which became feculent on the 24th. The bowels acted on July 23rd in response to an enema, but no further action took place with enemata. From July 23rd to the 25th no flatus was passed. When the patient was admitted his face had the aspect which is usually associated with acute intestinal trouble, the eyes being much sunken; the abdomen was tense, distended and tender to the touch. He was in great pain. One hour after admission Mr. Franklin decided to operate immediately. Chloroform was administered and the abdomen was opened by a median incision. A knuckle of small intestine was found to be strangled by a band of lymph of recent formation, with distension above and collapse below the strangled portion, which was of a deep purple colour. On dividing the band the collapsed portion of bowel was seen to fill with gas passing from above. Some clear fluid in the abdominal cavity was sponged out and the wound was closed and dressed in the usual manner. A Keith's glass tube was placed in the lower angle of the wound. On the morning following the operation the temperature was 99·2° F. About half an ounce of non-offensive, clear, yellow serum was withdrawn with a glass syringe and rubber tube, and the tube was then removed. The evening temperature was 100·6°. From this point the temperature gradually sank to normal. On the sixth day the bowels acted with an enema, and on the eighth day the wound was healed and the stitches were removed. For the first three days after operation he was supported with nutritive enemata, and he only took a little water by the mouth. Milk in small quantities was then well tolerated. On the eighth day solid food was taken. He was with difficulty persuaded to keep his bed for fourteen days and he was discharged in perfect health on Aug. 12th, eighteen days after admission.

Remarks by Mr. G. WINFIELD-ROLL.—I think there is no doubt that the favourable issue of this case was due to the promptitude with which the patient sought and obtained relief by operation and also to the fortunate way in which the lesion was found with little or no manipulation of the bowels. There will doubtless be a far better record of recoveries when such cases come early for operation.

DEVON AND EXETER HOSPITAL, EXETER.

A CASE OF SUPRA-PUBIC LITHOTOMY; RECOVERY.

(Under the care of Mr. C. E. BELL.)

MANY cases of suprapubic operation for the removal of calculus from the bladder were submitted to us for publication about three years ago, but of late such cases have been reported to us at rare intervals. We do not think that this is because the operation is less frequently performed, but because the position which the operation occupies in respect to other operations for the removal of stone is more clearly defined and the novelty attending the recent revival of the suprapubic method has diminished. Although we consider that the preferable operation in the case of children is usually that of lithotrity, there are several surgeons who for various reasons still prefer the method of which Mr. Bell's case is an example, or are forced to adopt it because the instruments required for use in the case of children are not available.

A boy six years of age was admitted into the Devon and Exeter Hospital, Exeter, suffering from incontinence of urine. On examination of the bladder Mr. Bell detected a calculus. The family history was good and the patient had lived in the neighbourhood of Exeter all his life. On June 21st, under chloroform, Mr. Bell thoroughly washed out the bladder with boracic acid lotion (warm) through a No. 6 silver catheter, and then refilled the bladder and plugged the catheter, leaving it in. A rectum bag was then passed and distended with two ounces of fluid. An incision three inches long was made in the middle line, commencing over the pubes. The fat over the bladder was easily reached, this being torn through with dissecting forceps. The bladder wall was exposed and made prominent by depressing the catheter, the point of which was cut down upon, and the bladder was thus opened. The two cut edges being held apart by Wells' pressure forceps the incision was enlarged, and on the finger being passed into the bladder the stone was readily found; it was extracted by a pair of straight lithotomy forceps. The stone was about one inch long and half an inch across, and it was composed of lithic acid. A large indiarubber drainage-tube was passed into the bladder and it was secured by being stitched to the sides of the skin wound, the upper part of which was brought together by silk sutures; the opening into the bladder was not sewn up. A dressing of sal alembroth wool was then applied. The drainage-tube was removed on the fourth day, the patient then having begun to pass urine by the urethra, although some still passed by the wound, which was quite healed at the end of a fortnight, and the patient was soon afterwards discharged cured. There was no rise in the temperature after the operation—in fact, it remained normal throughout. The patient did not complain of the least pain or discomfort.

Reviews and Notices of Books.

Orazio: I Cinque Libri delle Odi. Versioni di Eccellenti Volgarizzatori Antichi e Moderni. Scelte, una per ciascun' Ode, dal Dottore GIOVANNI FEDERZONI. Firenze: Sansoni 1893. (*Horace: The Five Books of the Odes.* Translations by the best Authors, Ancient and Modern. One of each Ode selected, by Dr. GIOVANNI FEDERZONI. Florence: Sansoni.)

Orazio: Gli Epodi e il Carme Secolare. Testo Latino; traduzione poetica; traduzione letterale; metrica; note. Per opera di C. CHIERICHETTI e R. GATTI. Milano: Sonzogno. 1893. (*Horace: The Epodes and the Secular Poems.* Latin text; poetical translation; literal translation; metrical; notes. By C. CHIERICHETTI and R. GATTI. Milan: Sonzogno.)

THE Scotch physician who is mentioned in Boswell's "Life of Johnson" as having filled a noble bibliotheca with nothing but editions of Horace would have found it necessary to multiply his library shelves many times over had he survived to perpetuate his whim down to the present day. With the exception of the Bible, à Kempis, "De Imitatione Christi" and one or two other books of a kindred character, perhaps none has been so often reprinted as the poems of Horace. Since the

Renaissance he has been a universal favourite, possessing a charm for the *littérateur* and the *savant* of every nationality, each of whom seems to find in his works a something in matter or in form which appeals to his special mood, intellectual or moral. The Briton and the Frenchman, the Pole and the Spaniard, the Dutchman and the Italian, the Scandinavian and the Teuton meet over him with a common sympathy, and they have all in turn edited him, illustrated him, criticised and vindicated him till he counts more numerous and more diverse tributaries to his genius than did his patron Augustus to his empire. Of these tributaries the British Isles have supplied the most conspicuous amongst the critics and translators—the English Bentley taking by universal admission the first place in the ranks of the critics and, at no great distance after him, coming the Scottish Cuningham; whilst amongst the translators it is still an undecided question whether the palm for combined fidelity and grace belongs to the English Conington or to the Scottish Theodore Martin.

Contrary to expectation, Italy has done less for one of her most notable sons than almost any other European country—less than Franch or Holland, less still than Great Britain, and infinitely less than Germany. Now, however, that the political distractions that have impoverished her intellectual yield in every branch of science and literature have been removed, she is again assuming the place which belongs to her by right of genius and inspiration, and the last few years have witnessed in her archæology as in her medicine, in her classics as in her physics, a fecundity of research and doctrine which will one day place her on level terms with Germany herself. Professor Trezza of Florence, who died but a few months ago, enriched Horatian literature with an edition of the Odes, which has given a colour of its own to all subsequent criticism; and Professor Stampini of Messina, one of the most accomplished Latinists in Europe, has lately issued in bijou form a text of the entire poems which comes as near to perfection as the manuscripts extant can admit of. Others which are hardly less meritorious in the same field might be named, but our purpose to-day is to bespeak professional favour for one at least of the two volumes cited above as furnishing as convenient and as satisfactory an aid to the combined mastery of Latin and Italian as has yet been offered to the public.

It was at the instance of the greatest Italian poet living—whose "Odi Barbare" are admired by such exacting critics as Theodor Mommsen—the Senator Giosne Carducci, that Dr. Federzoni of Bologna set himself the task of selecting from all the Italian translations of Horace's Odes those which seemed to be the happiest, and of confronting each with the Latin text on the same page. We have thus a volume quite convenient as to size which contains ode by ode and epode by epode of the Roman poet, with an accompanying Italian version, in most cases hardly less delightful than the original. We believe that sound Cambridge scholar, the late George Long, was right when he said that of all translations from the Latin into a European tongue the best are those into Italian—for the reason, if for no other, that there is an affinity not only between the older and the younger idiom—"la bella bastarda," as Byron called the latter—but also between the native genius of the writers in each. Niebuhr has acknowledged as much, and the same impression will be borne out by a careful comparison, let us say, of Alfieri's "Sallus" or Davanzati's "Tacitus" with the English, German or even French renderings of those authors. Dr. Federzoni's elegant volume affords not less striking evidence of its truth, as will be at once apparent to the scholarly reader who compares the famous "Integer Vitæ" (Book I., 22) or the splendid "Tyrrhena Regum" (Book III., 29) with Giovanni Mestica's reproduction of the former or Loreto Santucci's rendering of the latter. To our professional brethren who wish to revive or keep up their early familiarity with the odes, and at the same time to acquire or perfect a knowledge of Italian, there could be no more agreeable holiday or leisure task than such a comparison, entitling them to exclaim with the poet, as brilliantly emended by Lachmann—

> "O laborum
> Dulce lenimen *medicumque*, salve
> Rite vocanti!"

It will be remembered that at the International Medical Congress held at Berlin in 1890 Professor von Bergmann composed a humorous parody (which appeared in THE LANCET of Aug. 16th of that year) of the immortal "Beatus ille" (Epode II.) for the entertainment of each guest at the mighty symposium which concluded the festivities; and we doubt not that at the coming Congress in Rome Professor Baccelli's classical genius will inspire him to "cap" the effusion of his German counterpart. For all who care to qualify for an appreciation of such academic pleasantry we recommend a leisurely perusal of Dr. Federzoni's volume or even the smaller and less *recherché* work from the pen of Signori Chierichetti and Gatti. This latter is limited to the Epodes; it presents a literal translation of each poem at the foot of the page and Domenico Perrero's very pleasing rendering in Italian verse opposite the text; it has a well-written life of the poet with a brief essay on his metres; it also supplies judicious notes; and, finally, it is a marvel of cheapness—25 centimes (2½*d.*)—belonging as it does to a series published by the Sonzognos of Milan, who aspire to do for Italy what our own Charles Knight and the brothers Chambers did for Great Britain—namely, to bring the masterpieces of all literatures in the vernacular dress within reach of the most modest purse.

JOURNALS AND REVIEWS.

University Medical Magazine. Vol. v., No. 12, September, 1893. Philadelphia: University of Pennsylvania Press.—Dr. J. B. Deaver in an article upon the Treatment of Appendicitis urges strongly the abrogation of the terms "typhlitis" and "perityphlitis" and the recognition of the fact that inflammatory mischief (intra- and extra-peritoneal) is mostly due to disease of the appendix. He advocates the prompt removal of this structure as soon as diagnosis is established. Dr. Jas. Wallace writes on Glaucoma and Dr. Joseph McFarland, after giving a full historical review of the alleged presence of coccidia in cancer, seems inclined to conclude that the bodies which have been described as such are altered leucocytes, associated with vascular changes and other changes within cancer cells and of no etiological importance.

International Medical Magazine. Vol ii., No. 7, August, 1893. Philadelphia: T. B. Lippincott Co.—In this number Dr. Walter Carr concludes his analysis of Tubercular Lesions in Early Life, based on the facts of 100 post-mortem examinations. He shows that thoracic tubercle is seldom absent when there is tubercle in any other part of the body. It is interesting to note that he has not met with an example of acute tuberculous peritonitis, supporting the view that this disorder often ends in recovery. Dr. C. P. Noble contributes an article on the Causation of the Diseases of Women under the heads of (1) imperfect development of the sexual organs; (2) gonorrhœa; (3) septic inflammation following childbirth; (4) lacerations due to childbirth; and (5) miscellaneous causes, including constipation, erroneous habits of life and errors of dress. Dr. Augustus Wilson describes a method of suturing the tendo Achillis in the correction of deformities of the feet; and Dr. D. W. Graham publishes some observations on Movable Kidney with Hydronephrosis.

The Birmingham Medical Review. September, 1893. London: J. & A. Churchill. Birmingham: Hall and English.—Mr. Gilbert Barling records Three Cases of Perforated Gastric Ulcer in which surgical intervention was resorted to. Two of these proved fatal, and in one the ulcer was sutured;

but the third, a case where an abdominal abscess formed and was drained, recovered from a condition of grave peril. Mr. Barling discusses the general question of the justifiableness of such interference, and he describes the operative procedure to be employed. There is no doubt that, in view of the great mortality from such an accident, surgery has a claim to intervene, but the circumstances of such cases preclude the hope of any very frequent success. Amongst the other original article is one on the Treatment of Hare-lip by Mr. W. Thomas; and there is a very interesting Record of a Case of Injury to the Cervical Spine by Mr. Barling.

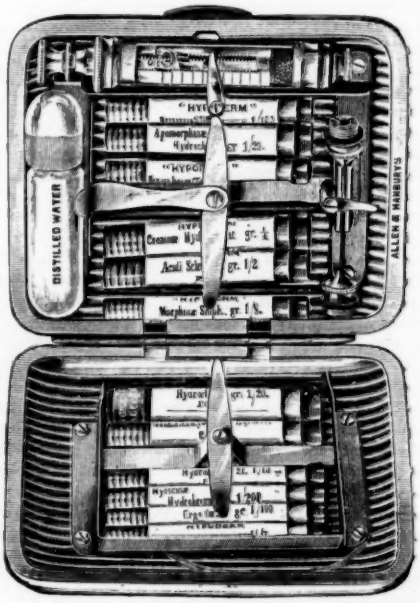
The Dublin Journal of Medical Science. September, 1893. Dublin: Fannin and Co.—Dr. H. MacDonnell describes some Modification of Liston's Long Splint and Leg Side Splints, with cradle for swinging; and Dr. Travers Smith supplies an article on Skin Eruptions of Rheumatic Origin, chiefly amongst the Erythemata. The Reviews and the Reports on Surgery are of exceptional interest.

The New Zealand Medical Journal for the July quarter of this year contains some interesting and valuable contributions and is otherwise an instructive study, reflecting, as it does, one phase of the development of Greater Britain. Dr. G. E. Anson contributes a valuable paper on the Treatment of Myxœdema by Thyroid Juice, a subject the literature upon which is already somewhat extensive, although much still remains to be learned. After lucidly sketching the well-known history of the recognition of the disease and its treatment by thyroid gland in various forms, he records the very satisfactory treatment of a child ten years of age, and in his subsequent comments draws attention to the fact that no reaction follows the use of the gland unless myxœdema be present. The writer himself had taken the juice of the gland with impunity. There seems thus to be a resemblance in this respect to the statements which were originally brought forward with regard to the effects of tuberculin in tuberculous and non-tuberculous cases. In the case of the latter agent, however, the belief was not found to hold good invariably. Mr. J. Hudson gives Notes on Ten Cases of Acute Intestinal Obstruction, remarking that "women stand abdominal section much better than men." Dr. C. Morton Anderson opened a discussion on the Deleterious Influence of Home Lessons at a meeting of the New Zealand Medical Association by a paper which is now published. There is a report of an interesting discussion which followed the reading of this paper and also of a resolution which was carried at the meeting, which shows the initiative taken by the profession in a matter of importance to the community. Dr. Cleghorn gives the Surgical History of the Illness of the Late Premier. In the event of the death by violence of an important member of the community—as in the case of President Garfield—the publication of the details of disease and treatment may be considered to be appropriate in a medical journal; but we would respectfully submit that publicity given to hereditary tendencies and similar matters when death occurs under usual conditions, even in the case of a premier, is out of place. Another point of interest is that with which an editorial article deals very fully, setting forth with every detail the incidents of an unfortunate disagreement between examiners concerning the efficiency of three candidates for qualification in medicine. Without expressing an opinion on the merits of the case, we regret that the nascent university in the vigorous colony of New Zealand should have had so unpleasant an experience. The conjoint action, compromise and submission to the majority of a well-ordered cabinet or a dignified withdrawal from its councils would, we imagine, have best suited the interests of all concerned, as harmonious action cannot be too much desired during the infancy of an institution which, like the colony itself, has, we are persuaded, a great future.

New Inventions.

NEW ASEPTIC HYPODERMIC CASE.

WE have received from Messrs. Allen and Hanbury, Plough-court, Lombard-street, a hypodermic case the new feature of which is that it is constructed entirely of metal, and can therefore be placed without damage to cover or lining in effective sterilising solutions. The case, which is of aluminium, holds twelve tubes of soluble tabellæ, six on either side, and these are kept firmly in position, when the case is



carried about or open, by movable aluminium pins. A well-made syringe, with piston and screw action, two needles, and a tiny pipette-flask for distilled water, are included. Every attempt to obviate septic infection must be praiseworthy, and although the occasions on which the ordinary hypodermic case of leather and velvet have proved the vehicles of infection cannot be numerous, the possessor of a case that can be thoroughly purified within and without will always be on the safe side.

MEDICAL DEFENCE UNION, LIMITED.—A council meeting was held at 429, Strand, London, W.C., on Wednesday, Sept. 13th, 1893, at 4 o'clock P.M., Mr. Victor Horsley in the chair. Thirteen applications for membership were accepted and other business was transacted.

MEDICAL MAGISTRATES.—The following names have been added to the Commission of the Peace for the county of Warwick: T. F. Chavasse, M.D., Birmingham; T. Elkington, Fenny Compton; Clement Dukes, M.D., Rugby; Edward Malins, M.D., Birmingham; T. W. Thursfield, M.D., Leamington.

WEYMOUTH SANATORIUM.—The forty-fifth annual meeting of the friends of this institution was held last month at the Sanatorium, under the presidency of Colonel Steward. The report, which was read by Dr. Macpherson Lawrie, gave a favourable account of the work accomplished during the past year, whilst the prospect held out of increased usefulness in the future seemed assured by the fact that the sum of £700 has already been raised for the purpose of securing increased accommodation for the inmates.

THE LANCET.

LONDON: SATURDAY, SEPTEMBER 23, 1893.

WE have now reached a stage in the prevalence of cholera in England when a summary may well be made of what has passed and when some forecast as to the future is permissible. It is now clear that cholera was prevailing in Grimsby during the greater part of the month of August, and from the unusual precautions taken by the town council as regards the burial of the dead it must be assumed that the actual nature of the disease was at least suspected; but no suspicion whatever seems to have been felt outside the limits of the borough, and hence the disease acquired a footing before complete preventive measures were entertained. However, towards the end of the month the recurrence of deaths attributed to causes other than true cholera aroused suspicion at Whitehall. Dr. REECE, one of the medical inspectors, was at once sent down, with the result that Asiatic cholera was found to have been causing death for some weeks past. As might have been anticipated, Grimsby has since then not been free from the disease; but happily, owing to the excellent water-supply of the town, no real outburst has taken place. Reviewing all the facts, there can be no practical doubt that in the absence of really careful medical inspection of all incoming vessels unrecognised cholera made its way into the town and obtained a footing there. How far a similar result might have happened, even with efficient day and night inspection and a port hospital ready to receive the earliest attacks, and how far the failure was due to the absence of an Imperial subvention, we cannot say; but the fact remains that the precautions were not in full force in advance and that cholera made its appearance in Grimsby.

With Hull the matter is different. Cholera may have made its way to that town in the same way as it probably did to Grimsby, or it may have reached Hull from Grimsby just as it has reached other places which have been in constant and unrestricted communication with the latter place, which seems to be a general pleasure resort for South Yorkshire people and which has to the last done its utmost to attract the public to its town and beach; but Hull at once notified that cholera had made its appearance within its limits, measures of precaution were at once vigorously undertaken under the supervision of Dr. MASON and they have been maintained with an efficiency which leaves but little, if anything, to be desired, the result being that when the two populations of Grimsby and Hull are compared the outbreak in the latter town sinks into insignificance beside that in the former. And this is the more remarkable because, whilst Grimsby presents a number of local conditions — apart from its defective sewerage — highly unfavourable to the diffusion of imported cholera, Hull, on the other hand, presents immense sanitary difficulties and is in some respects—topographically and otherwise—rather typical of the kind of town in which cholera tends to diffuse itself rapidly. The attitude of the two boroughs in the face of early attacks of suspicious cholera-like disease is noteworthy.

The other outbreaks of the disease which have occurred may, with two exceptions, be spoken of collectively. The exceptions are at Cleethorpes and Ashbourne. Of Cleethorpes it need only be said that one part of the town is practically a part of Grimsby and that the danger to it was due to its proximity to and association with Grimsby. A large part of Cleethorpes is distinct from the neighbouring borough and the town has suffered much less in proportion to Grimsby; indeed, it seems now to be practically free from the disease. The case of Ashbourne is different. The outbreak there was localised in one court; the mischief began in an inn frequented by low vagrants and itinerants, the place had a thoroughly bad sanitary reputation, infection must have been introduced—once introduced, it could hardly fail to soak into its dirty well—and then followed the outbreak amongst the consumers of the contaminated well-water, which was found to teem with cholera bacilli.

All the other occurrences of cholera are remarkable for their isolated character. In only two or three out of some twenty towns and villages affected has there been more than one attack. Indeed, so striking is this that the question has arisen as to whether some of them were cases of true cholera of the Asiatic type. In point of symptoms and post-mortem appearances they have resembled the major disease, as also in point of rapid fatality, and when judged by the bacteriological test they are stated to be quite indistinguishable from results obtained in cholera when studied in the valley of the Ganges. This is very remarkable, and it will give additional interest to the investigation which the President of the Local Government Board states that, on the advice of Dr. THORNE THORNE, he is about to have undertaken—namely, the relations that exist between cholera of the Asiatic type and those fatal forms of diarrhœa which have hitherto been styled "English cholera."

With regard to the future, we feel justified in expressing ourselves hopefully. With the exception of Rotherham, the towns in the north where any sequence of multiple attacks has taken place have apparently water-supplies which are not exposed to specific poisoning, and even Rotherham may now have taken steps to the same end since the publication by the Local Government Board of Dr. THEODORE THOMSON'S report in August of last year. In this matter of public water-supplies lies our principal safety in so far as uncontrollable outbursts occur. Then, as to the other occurrences, the mere fact that we have now reached the second half of September and that the attacks still remain isolated ones is a matter which affords some substantial justification of the hope that they may remain so. The careful supervision which is exercised over every suspicious occurrence both by Local Government Board inspectors and by county and local health officers is an additional guarantee of safety, and we feel that we may soon see the end of any immediate anxiety.

But the matter is different when next year is considered. The second year of the European prevalence was, last year, held to constitute for us a greater danger than the first year, and the truth of the prophecy has been fulfilled. If we venture on another prophecy it is to the effect that, as the seeds of cholera have this year gained access to our midst and have distributed themselves somewhat widely, although sparsely, the chance of a revitalisation in 1894 is a distinct and a serious possibility. Hence we would, even at this early

date, warn sanitary authorities to utilise the interval between now and next summer in effecting improvements in their districts, in preparing to isolate the sick, and, above all, in dealing with all sources by means of which water supplies may become contaminated by soakage of filth or by receiving sewage in any form.

THE question as to what is the best method by which students can obtain instruction and experience in practical midwifery is one of much interest and importance both to the profession and to the public. Formerly, and indeed comparatively recently, the arrangements for teaching the proper way to attend even an ordinary case of labour were far from being satisfactory. Generally the only condition that had to be complied with by the student prior to his being allowed to attend cases of midwifery in the extern maternity departments connected with our various medical schools was that he should have taken out the course of lectures delivered every summer by the teacher of midwifery. Whether any actual knowledge of the subject had been so obtained was a matter of which the authorities did not always take any cognisance, nor indeed, in some cases, did they even ascertain that this course of lectures had been regularly attended. If the ticket for the course had been taken out and paid for, it used to be, at least in many instances, nobody's business to inquire too curiously as to how the lectures had been attended before permission was given to begin work in the maternity department. As many of our readers will remember, the system was somewhat as follows. Theoretically it was the duty of the resident obstetric officer to accompany each student when he was called to his first case; in practice, however, it often happened—sometimes no doubt from actual want of time, but not infrequently because the matter appeared to be too trivial for his attention—that this duty was done by deputy in the person of some other student who had already seen a few cases. Instruction of this kind could scarcely be expected to prove of much value, though it was generally dogmatic and wonderfully simple; and not rarely the tyro was glad to be rid of his instructor, and to be free, in his second case, to act entirely on his own responsibility. The student usually carried with him a card of instructions which were designed to enable him to keep clear of the more serious and obvious dangers which were likely to beset him, or rather his patients. He was strictly enjoined to do certain things, and not to do certain other things, and above all he was not to hesitate to send for help. Thus equipped, and generally with a copy of "Obstetric Aphorisms" in his bag or his pocket, the maternity pupil would sally forth to attend the number of cases necessary to obtain the all-important signature. In some instances, as the certificate of attendance in cases of midwifery may be given by any legally qualified practitioner, the requirements of the examining boards in this matter may have been satisfied by the student whilst he was acting as an assistant, and in other cases the certificate was obtained by becoming a resident pupil in a lying-in hospital; but probably the system we have just sketched, or something closely resembling it, was the one by which a large proportion of practitioners gained their earliest acquaintance with practical midwifery. The defects of such a system are obvious. Cases might be attended, and not rarely were attended, by men who knew very little of obstetrics, and consequences of greater or less gravity were at times the natural result. That serious accidents were not more frequent speaks highly for the men who attended their cases under such a system. No doubt the large majority appreciated their responsibility, recognised their want of knowledge, and endeavoured by every means in their power, and especially by taking books with them to their cases, to be studied during the weary hours of waiting, to remedy their incompetence at the earliest possible moment. Of late years, at many of our schools, the system has been greatly altered. It is for the most part, we believe, no longer possible for a student to have his name placed on the list of maternity pupils on the strength of a merely perfunctory attendance on a course of midwifery lectures. He is required to show that he has profited by it, and, in some schools at all events, students are not allowed to attend their cases till they have satisfied the obstetric physician in charge of the maternity department by the test of actual examination that they have acquired a sufficient knowledge of elementary midwifery, and more especially of that part of it relating to the observance of antiseptic principles. Many of the licensing bodies now require a certificate that the candidate has attended a course of practical midwifery in addition to the theoretical course. It is to be regretted that there is not more uniformity in the requirements of the licensing bodies in this respect; for example, whilst some bodies require a certificate that the candidate has attended not less than twenty or even thirty labours, others, unfortunately, are content with attendance on only six cases. So small an experience appears to us to be quite inadequate to fit a man to practise midwifery on his own responsibility. The question is sometimes raised as to whether it is better for a student to attend his cases in the out-door maternity department connected with his medical school, or that he should migrate to one of the lying-in hospitals for the purpose. Each system has its advantages. In the former case he is left largely to his own devices, and the necessity of thinking for himself is obviously of great educational value, if he starts with a fair theoretical knowledge. On the other hand, in a lying-in hospital this sense of responsibility is more or less absent, and, though he may in a given time see more cases, he may not improbably play no more important *rôle* than that of a spectator, and consequently be little prepared to act on his own resources in the emergencies that will surely be met with afterwards in practice. The advantages of both systems may, perhaps, in the future be combined. Formerly, as is well known, lying-in hospitals were periodically visited by epidemics of puerperal fever, but at the present time it is generally recognised that puerperal fever is a preventable disease, and that it is to be avoided by the rigid observance of strict antiseptic methods, the details of which are now well understood. This being so, it may well be possible to have a properly isolated lying-in ward in a general hospital, and it would certainly be a great advantage for students to see some cases attended in hospital before commencing attendance on patients at their own homes; but attendance in hospital should not take the place of work in the out-door department, as in no other way is the faculty of self-reliance so likely to become developed. The experiment that is about to be tried at St. Mary's Hospital of establishing lying-in wards for the reception of lying-in

women as in-patients will, therefore, be watched with much interest, and should it prove successful, as we trust it may, a similar plan will no doubt be generally adopted by the other medical schools.

THIS is the age of "organic extracts." Thyroid feeding is already a recognised mode of treatment for certain conditions, and the marvellous success which undoubtedly attends this procedure has led to its imitation by the administration of preparations from other organs, a course of action which has nothing like the physiological justification which the administration of the thyroid gland possesses. Amongst such substances is "cerebrine," prepared presumably from cerebral substance and brought into notice by Dr. W. A. HAMMOND in an article in the *New York Medical Journal*. It was claimed that this substance administered in five minim doses caused an increase in the pulse rate, accompanied by a feeling of distension of the head and flushing. A feeling of exhilaration was also said to be experienced, lasting for several hours, and if the dose was administered about bedtime wakefulness was the alleged result. The urine was also said to be greater in quantity than normally, and the peristaltic action of the intestines increased in force and frequency, whilst the general muscular strength and endurance were much augmented. Visual power was likewise said to be strengthened, and the appetite and digestion were both increased. Such were the claims put forward on behalf of Dr. HAMMOND'S "cerebrine." Similar qualities were ascribed to another preparation, which was named "cerebrin," and it was of course inevitable that a stringent examination of substances for which such importance was claimed would sooner or later be made by some unprejudiced person. Such an examination has now been made by Dr. STOCKWELL of Detroit, and its result is given to the world in a recent number of the Philadelphia *Medical News*. The method of trial was as follows: On three different days the observer himself, a medical friend, and another friend, the manager of a large manufacturing establishment, obtained twelve men for experimental purposes. These men voluntarily submitted to the ordeal, only being assured that no harm would come to them, but not being informed of the nature of the fluid which was injected or of the symptoms which, from previous description, might reasonably be expected. After each administration the pulse, temperature &c. were recorded hourly, and in the interval the subjects of the trial went about their work, which, in most of the cases, was heavy. The fluids employed were (1) "cerebrine" in the original packages; (2) "cerebrin," also in the original packages; and (3) a control mixture composed of 38 parts of borax, 42 parts of glycerine, and 40 parts of water. The thermometers used had Kew certificates, and a new hypodermic syringe was employed for each fluid. For trial with each solution four men were selected, and the pulse, respiration and temperature were of course observed before the administration of any of the fluids. With reference to the results it is stated that "cerebrine" gave a little variation from "cerebrin," and the third fluid (borax and glycerine) was practically as effective as the preceding two. There was a slight variation in the pulse in some of the cases on the first day, to be naturally accounted for probably, by a certain amount of trepidation and nervousness, for on the second day there was considerably less variation, the ordeal naturally being not so trying because better understood. As regards the temperature, in no instance was the average increased to the amount of 0·07 of a degree, nor were the statements made by Dr. HAMMOND as to the other symptoms borne out. No exhilaration, or flushing, or wakefulness was complained of, nor was there any evidence of increased power of vision or of strengthened muscle, and the disappointing conclusion is come to that "cerebrine," "cerebrin" and a solution of borax in glycerine and water are all equally efficacious, or rather equally inert for good or evil.

The only possible objection which we could critically urge against these observations is that the age of the patients tried was too low. It is claimed for the substances named that their greatest efficacy is obtained in elderly patients, in whom degeneration is beginning to manifest itself; but even this—almost the only point on which exception could be taken to the conclusions—is a trivial matter and does not in any way invalidate the issues. It is the recognised rule in medicine to "prove all things; hold fast that which is good." We venture to think that "cerebrin" and "cerebrine" are not amongst the things which the medical profession is likely to hold fast, and we congratulate Dr. STOCKWELL on his careful observations, which would seem to correctly appraise the worth of these substances as remedies.

Annotations.

"Ne quid nimis."

SOME POINTS OF THE EVIDENCE BEFORE THE SELECT COMMITTEE ON THE REGISTRATION OF MIDWIVES.

WE little thought when we ventured to criticise some of the incidental features of the evidence which was given before the Select Committee on the Registration of Midwives what we were bringing on ourselves in the shape of a correspondence that rediscusses the whole subject, and which would with a little encouragement soon need another Blue-book for its accommodation. We cannot continue much longer to give space to a discussion which has now been fairly well exhausted, but we do not regret the space which we have given. It was due to the subject, which, whatever may be the differences of opinion that may exist, remains one of the most urgent and one of the most pathetic that can appeal either to the Legislature or to the profession. It was due to the profession, which has been badly treated in this matter by the licensing authorities, who have too lightly regarded this momentous part of medical education; and it was due to those gentlemen, to some of whose evidence we took strong objection, as in the case of Dr. Rentoul, who represented that medical men gave "forged certificates," and who in another part described how, in a hospital with which he was connected, "we had a very small puerperal death-rate, but we managed that by removing all the women that we thought were going to die from the puerperal wards into the medical wards." Dr. Rentoul was naturally asked "by whose direction was this 'deceptive manœuvre' practised"? and he replied, "by the visiting medical staff." Again: "In order to make the statistics look well concerning puerperal fever this manœuvre was carried out?"—"Yes." The least we could do with such grave representations to a lay body on the actions of medical practitioners and the medical officers of public institutions

was to give them publicity, and to give those affected by them an opportunity of publicly answering them. We will leave it to our readers to judge for themselves after the full and clear statements of Dr. Alexander in our columns whether he deserved to be held up before a Select Committee as the author of "a deceptive manœuvre." We can only say for ourselves that the vindication of his honour and of the records of his hospital is most creditable and satisfactory, and that it well justified the eulogium of Mr. Rathbone to the Committee in handing in Dr. Alexander's written reply to Dr. Rentoul's remarks: "I wish to say that I have had a long knowledge of Dr. Alexander, both personally and professionally, and I am satisfied that the most implicit confidence may be placed in any statement made by him"—and that by such statements Dr. Rentoul spoiled evidence which otherwise might have carried weight, and laid himself open to the remark of "an old-fashioned and trained lawyer" on the Committee. Mr. Arthur Williams, in Question 686, said: "This is one of the many statements that you have made in the course of your evidence of a very grave nature which have been entirely unsupported by anything I could call evidence." It is no wonder that, with all Dr. Lovell Drage's sympathy with Dr. Rentoul's views, both in his letter of this week to us and in the evidence which he gave before the Select Committee, he has indicated his dissent from the exact line which had been taken by Dr. Rentoul. It is always interesting to hear or read what Dr. Atthill has to write or to say on the subject of midwifery and the best means of educating either midwives or medical students, and we do not at all regret having received from him a long letter on his views, in which he vindicates his remark that he has "seen more harm done by the mal-education of the medical student than there is by the practice of absolutely illiterate women." Dr. Atthill is not singular in having seen bad things done by badly educated medical men, and the cases which he adduces in our own columns are sad enough; but what have they to do with the question on which he was giving evidence? Does he really mean to indicate a preference for illiterate women over even badly educated students? If not, what is the point of such a remark? It would have been better made in the General Medical Council or in his own college, before men who might have been seized with some compunction as being responsible for defective obstetric education, and as having the means of altering it. Dr. Atthill is sincerely anxious to increase the sound education of midwives and of medical students, and few men are more able to speak on the subject; but in reference to that unfortunate remark about the illiterate women, which, if it had any force, could only tend to discourage attempts to stop any interference with their obstetric bunglings, we venture to say a word or two. Dr. Atthill represents a country where the midwives have been trained for generations, and where such trained midwives are largely employed by parishes. It is, moreover, a feature of his country that it is better provided with an organised medical service than probably either England or Scotland. He is scarcely likely, therefore, to witness the bad results of the work of illiterate midwives which has been painfully shown to exist in the English branch of the evidence. As to Dr. Atthill's remark about the education under a local practitioner being likely to be often "a farce," we still regret such terms of disrespect. Has there not been much formal and unreal show of teaching in this subject by the corporations and the universities themselves? Does Dr. Atthill not say so in his evidence? Medical practitioners are the creation of such colleges as Dr. Atthill represents. It is open to the colleges to require that any practitioner who claims to train pupils should be able to satisfy them as to his ability to do so; but to speak of their educating power as being "a farce" is not to advance the respect for the profession amongst leading public men. Amongst other statements which are, we think, much to be regretted in this discussion is one that medical men are willing to accept the low fees that midwives take. The latest illustration appears in the present issue of THE LANCET, where Mr. Sers repeats that "there are any number of medical men who attend midwifery at the rate of uncertificated midwives." Such a statement is injurious to the profession. What does "any number" mean? Will Mr. Sers give a definition of it or tell us of any limited place where the statement can be tested? Until then he must excuse us for objecting to this way of placing the profession in an undignified light. We must not dwell longer on the personal aspects of this controversy. We can see in the evidence, and we may shortly show this in more detail, a substantial agreement with our own view that the illiterate and ignorant "Gamp" must be got rid of; that the midwife must have some training, but only enough to keep her strictly to the duties of a midwife; and that she must be subordinate to the medical profession and bound to refer to it in any departure from the ordinary course of things.

DISEASE AND PANIC.

IT is very questionable whether even the actual havoc wrought by disease upon the lives and health of those whom it visits is more to be dreaded than its frequently withering effect upon their moral nature. What this may signify has been proved by the history of every epidemic. Misapprehensions, unbounded self-concern and consequent excesses have characterised only too truly and too often the conduct of sick and sound alike. We do not say it of all such. Undoubtedly there have been many and brilliant exceptions to this ignominious rule, but many still remain, who are the victims partly of ignorance but largely also of their own selfish fear, to prove its truth. The evil is not, as we have shown, one of recent growth; neither is it by any means a thing of the past. It prevailed throughout the pestilences of the Middle Ages. Two hundred years ago it was as rife as the plague itself. But yesterday it broke out in riot and disorder on the eastern frontier of Russia. We are now confronted by a similar disgrace in Georgia, U.S.A., where a mortality from yellow fever which might almost be described as trifling has resulted in a widespread panic. Thousands of persons who had fled the infected district have been met and driven back by the armed resistance of terrified and indignant neighbours. It is to be hoped that the local authorities will lose no time in importing into the disturbed area the assurance which comes of effective sanitation. The immunity wrought by this means, it is to be remembered, can only be attained by the loyal and intelligent coöperation of the resident population and must, on the other hand, be hindered or frustrated by their present cowardly and violent behaviour.

CULINARY REFORM.

IT has been said that no new project can ever be set on foot in England with any success without an inaugural dinner. Not infrequently the inevitable process is a little out of harmony with the project, but a dinner is certainly a suitable way of introducing culinary reforms. There is to be such a dinner shortly. A number of gentlemen interested in advocating an improved and superior system of cooking food and serving it are to meet and dine together, and the *menu* on the occasion is to be a practical example of the changes which they desire to carry out. A project for reform, even amongst the most revolutionary, can only be justified by the presence of an evil, so that the utility of a scheme for general culinary improvement is largely dependent upon whether we, as a nation, cook our food rightly or wrongly. There are three essentials to good cooking: (1) the utmost nutritive value should be extracted from the material; (2) the process should be as cheap as possible; and (3) the result should be as

palatable as possible. The diet of an ordinary English household is, generally speaking, nutritious and of a character that is well adapted to the climate in which we live, and, on the whole, our food is palatable; but it is monotonous, and the expense both of raw material and of dressing is—by comparison, for instance, with French, Austrian and Italian figures—very high. The introduction of the culinary methods of other nations into our kitchens is made an integral part of the new scheme, and if the promoters can relieve the monotony of our tables by importing new dishes, whilst instructing our cooks in more economical ways, they will deserve every support.

A STARTLING NEW DEPARTURE IN LONDON DEGREES.

WE are in time to announce to our young friends who are preparing to begin on Oct. 1st the arduous study which is requisite for obtaining a medical degree in London a more easy method, and one which will entitle them to add the coveted letters M.D.(Bc) to their yet unhonoured names. Whilst rival political factions are fighting for office and rival medical schools are obstructing the settlement of the urgent question of London degrees for London students a quick and easy method for multiplying degrees has been initiated in an entirely new quarter. The method is somewhat furtive—perhaps we should say modest in character; but there it is, and it has already produced one doctor of medicine, who airs his title in proper style. The discovery of what is practically a new degree-granting body is due to the vigilance of the Medical Defence Union. But the fact need no longer be a secret. It can be verified for himself by anyone who likes to visit Somerset House and spend a shilling and an hour or two in exploring the nature of new companies, and if he asks for a slip of paper with a certain form of inquiry on it he will be in a position to learn all about what will henceforth be known—no doubt to all future ages—as the General Council of Safe Medicine, Limited, *pace* Sir Richard Quain. The similarity of the title to that of the body over which he so ably presides is striking, and yet what a difference there is. "Not like to like, but like in difference." The General Council—that is exactly the name given in Section III. of the Medical Act of 1858 to the General Medical Council; but then comes the point of difference—the General Council of *Safe* Medicine. This is a cruel distinction. We hasten, however, to announce the chief object of this interesting company (limited), for we may say that this new degree-granting body is like everything else nowadays of the nature of a limited company. Paragraph 3 of the Memorandum of Association is as follows:

"The objects for which this company is established are to grant Degrees, Scholarships and Awards of merit in the magnetic and botanic system of safe medicine to students passing a satisfactory examination before the General Council of Safe Medicine, and to those of the botanic profession of good moral character and who can produce reliable evidence of qualification, or ten years' practise (*sic*) at the discretion of the Council; the highest diploma of the Council conferring the distinction of M.D. (Bc.), which shall signify the rank of doctor of botanic medicine in contradistinction to surgery and the practises (*sic*) of the allopathic and homœopathic schools of medicine and also to maintain a lecture hall, library and record office in which a biographical record of the members shall be kept so far as obtainable."

In our benighted ignorance of law and with all our medical prejudices in favour of universities and colleges as the sources of titles we should have thought that the authorities of Somerset House or of the Board of Trade would have seen something in this spirited departure which was inconsistent with the clear intention and even the words of the Medical Act; but to our amazement this does not seem to have been the case. We have treated the matter lightly; but it is no light matter, as perhaps may soon appear. The list of directors includes a gentleman described as being in Holy Orders, and another who is described as being a doctor of medicine. The other names are chiefly those of medical herbalists. Here we propose to leave the subject for the present, in the hope that the universities, the General Medical Council, the Government, the Medical Defence Union, or the London and Counties Medical Protection Association will lose no time in exposing what seems to be a monstrous abuse of the Limited Companies Act. Times may be very bad in the commercial world and on the Stock Exchange, but we have surely not come to such a pass as to permit trade in medical degrees on payment at Somerset House of the fees for the registration of a company. Otherwise we must cease our denunciation of other countries for their bogus degrees.

EMERGENCY CASES OF ILLNESS AND THE MEDICAL PROFESSION.

THE public are gradually learning that medical men are not bound to attend at everybody's beck and call—in other words, that they have to be paid for like other classes. Lately a jury at Poplar, on the suggestion of the coroner, added the following rider to their verdict of "Death from natural causes" in a case where a medical man declined to attend without being first paid, and where the patient died before a second one could be procured:—i.e., "that the coroner write to the guardians and urge upon them the desirability of their obtaining the power to pay a doctor out of the poor-rate when called to urgent cases of sickness." We have long urged that some such provision should be made for emergencies of this kind. The time has passed for the public to throw on a poor and overworked profession the weight of all its cheap benevolence. When it has done its own part the profession will not be an ungenerous party to seeing that no sick persons are unrelieved.

THE PATHOLOGICAL PRODIGY.

MR. WALTER BERNHARD, writing in *Musical Opinion and Music* for Sept. 1st, criticises in a firm but gentlemanly tone our article on the pathology of the prodigy which has been so largely commented on by our contemporaries. The topic is one on which we are as glad to be the instructed as the instructor, and we freely admit that Mr. Bernhard throws out in a new light a theory which has fairness of argument on its side in so far as musical aptitude and genius is concerned. Psychologically also the theory is ingenious. He defends the musical prodigy as against the idea of a pathological prodigy on the ground that the grand genius is born to his fate, and instead of being driven by his seniors and masters to do work that kills is only permitted to perform that which relieves him of a mental longing which would be injurious, if not fatal, if it were violently suppressed. The brain of these geniuses is bursting with genius, and it is relief to give them full scope for their remarkable talents. The boy on whom we commented is not a student forced to sit for hours at a desk "with quires of blotted music paper before him and half-a-dozen volumes around him of ominously inscribed fugue, double counter-point, or orchestration," but one who, spontaneously and by necessity, gives forth music like Shelley and Shelley's lark, that "from heaven or near it pours its full heart." In support of his view Mr. Bernhard adduces the case of Schubert, who, when twelve years old, confided to Spohr that he composed something every day, that he could not help composing and that he should write more if he could afford to buy the necessary paper. This is as if the boy had said that his brain "was full of beautiful musical ideas," which were pouring in and jostling one another until, by writing them down, his brain obtained relief. It is, therefore, not cruelty, but the contrary, to allow such a brain to realise the benefit of work and allow it to be unburthened from an oppression that is spontaneously produced. This

theory, new to us, is one we would respectfully submit to those of our readers who are particularly learned in psychology. Meanwhile, it seems to us unfortunate for the gifted men to whom reference must be made that they often, however spontaneous their genius, are destined to die young. Sir George Grove says of Mozart, *apropos* of our article, that if he (Sir George Grove) held our views that a Mozart's "training should have been deliberately postponed to some indefinite period in order that the fruition of his genius might be enhanced in the future," before propounding such views he would first prove "that Mozart had lost power in some mysterious way by his father's assiduous care and teaching." We had no thought of urging, and no occasion to show, that Mozart had lost power; on the contrary, we think that his sublime power remained so long as he could exercise it. Our point is not that he lost his power, but that he lost his truly precious life in its early days. Our point is, not failure of genius whilst life lasted, but failure of life by genius forcing the body into fatal physical disorganisation. Let our musical friends show that life is conserved as the brain is "relieved," and we will give up our point and admit that with these youthful composers of musical strains, "to compose is, indeed, the break of life." But is it so? There's the rub.

THE AUTUMN MANŒUVRES OF THE ITALIAN ARMY AND THE RED CROSS.

PIEDMONT, having purged itself sufficiently from the presence of cholera, has witnessed the grand manœuvres of the Italian army one month after date. These have been marked by features announced as "most gratifying" to the King—e.g., the soldierly qualities of the men, the promptitude and precision of the artillery, the steadiness and celerity of the marching and counter-marching, the solidity and *élan* of the cavalry charges and the general efficiency and success of the evolutions. But the Red Cross service, never on previous occasions so fully *en évidence* as on this, elicited from His Majesty the heartiest commendation. Thanks to the successive trial-trips, an account of which appeared in THE LANCET of Aug. 19th, the hospital trains which accompanied the recent manœuvres were in no respect unprepared for the increased work thrown upon them, work imposed not only by the casualties inseparable from moving vast bodies of men under the severe discipline of mimic warfare—e.g., sprains, ruptures, dislocations, contusions, burns, fractures, insolation, syncope and such-like—but by the frequency of summer diarrhœa, always more or less noticeable when "cholera is in the air" and when the panic or emotional disturbance which it causes combines with the heat, the excessive use of drinking-water not invariably pure, and the indulgence in fruit, unripe and overripe, to keep the alimentary tract in abnormal activity. At Saluzzo and Cuneo particularly the service was in great request, trains continually coming and going with the sick and disabled, some of whom found adequate treatment *en route*, whilst others were accommodated in such temporary infirmaries as the Convitto di Sant' Agostino, where the rector of the establishment placed seventy beds at the disposal of the Red Cross service. The municipalities of the various towns coöperated with the service in relieving the trains of the severer cases, thus enabling the ambulance staff to perform more frequent journeys and to devote their time more exclusively to the successive relays of the injured or ailing. In no case did the *matériel* or the armamentarium break down, whilst the municipal coöperation referred to kept the trains always well supplied with fresh ice, drinking-water, meat, vegetables and bread. This satisfactory record of the Red Cross service, however, would have been impossible out of Piedmont or Lombardy, where the railway network is so fully developed and so extended as to admit of cross-country trips which would be quite impracticable in Central and still more in Southern Italy, the iron roads in which are few and far between, and where, in almost every case, they have only a single pair of rails. This defective means of transport, indeed, is one of the most serious problems now engaging the Ministerio della Guerra. In the event of the sudden descent of an invading force on the Tuscan or Neapolitan littoral precious time would inevitably be lost in mobilising the native troops and in bringing up reinforcements from the garrison towns to the scene of hostilities. With the exhaustion of the Italian Exchequer the necessary multiplication of double lines between the seaboard and the interior is a hopeless task, and the War Office must content itself with the small additions to the means of communication within its power whilst peace still prevails. What affects the mobilisation of the army affects in equal measure the efficiency of the Red Cross service, the discipline of which is confined almost exclusively to those provinces where railway transport is provided for. Indeed, if the restriction of its area is considered, the efficiency of the service is more than creditable and must add another stimulus to the completion of those railway systems without which the combatant and non-combatant arms are equally paralysed.

ENTERIC FEVER AT STOCKPORT.

NEARLY 150 cases of enteric fever have occurred in Stockport during the last three months, and they have been associated with definite sanitary circumstances of a faulty nature. Notably amongst these stands the question of the ventilation of the sewers; but both in this and other respects considerable activity is now being displayed in the borough. As is so commonly the case, persons who are unable to appreciate the value of a straightforward attitude as tending to the best interests of a district, have not hesitated to attack Dr. Charles Porter, the medical officer of health, for having honestly set out the facts as regards the prevalence of the fever, and for having indicated to the town council the faulty conditions which called for remedy. Fortunately such attacks have thus far had no influence upon those who desire to improve the standard of public health in the district and thus to promote a condition which will tend to the greatest enjoyment of life and to the maintenance of the highest capacity for remunerative labour. We trust soon to be able to record further progress in the several matters which, according to Dr. Porter, need amendment in the borough. For the moment, the prevalence of fever seems to be abating.

SYRINGOMYELIA.

A CASE apparently of this condition has recently been described in the *American Medical News* by Dr. Newmark of San Francisco. The patient was an unmarried woman, a seamstress by occupation, twenty-five years of age, and was a native of Boston, Massachusetts. She came under observation in January of the present year, complaining of wasting of her hands and of insensibility to pain or heat in the upper extremities. She experienced the first symptoms six years ago—viz., paræsthesia in the right upper limb, which was relieved usually by blows or strokes on the affected part. She also observed that in sewing and ironing, although she frequently injured her hands, these injuries caused no pain. There ensued apparently some grave trophic changes in the hands, more especially in the fingers and nails. Whilst undergoing electrical treatment at this time a running sore formed in the left hand, which remained open for some time, but caused her no pain. Wasting of the hands followed, and also jerking, especially of the left lower limb, intensified by fatigue, and this persisted in varying degree. Pain was also complained of at the back of the neck and in the palm of the hand. There was nothing significant in the family history except that the patient's father and sister and a maternal uncle were said to have died from

phthisis. On examination both hands were found to be much wasted and to have assumed the characteristic "claw" deformity. The right hand was less affected than the left. There was fibrillary twitching in the muscles of the inner side of the left forearm and in those of both hands. Tactile and muscular sense were preserved everywhere, but there was analgesia in both upper extremities, more marked on the left than on the right side; it was most pronounced, however, on the left side of the head and neck and on the left shoulder. On the other side it was very slight and the affection of the trunk was also slight. The nostrils on the two sides were equally sensitive to ammonia vapour. The thermal anæsthesia was similar in extent to the analgesia, and trophic and vaso-motor changes in the skin were not marked. The iris reflex was normal in both eyes, but the conjunctival reflex on the left side was absent. The knee-jerks were both much exaggerated and ankle-clonus was once elicited on the left side. The special senses were normal. There were opaque nerve fibres in both eyes. There was no scoliosis, but the spinous processes of the ninth, tenth, eleventh and twelfth dorsal and of the first and second lumbar vertebræ were peculiarly clubbed, whilst the eleventh and twelfth dorsal and the first lumbar vertebræ were also bifid. Dr. Newmark, in considering the case, gives a review of the cases which have been so far published in which the diagnosis has been confirmed by a necropsy, and he arrives at the conclusion that his case is one of syringomyelia. With reference to the etiology of the condition as depending sometimes at least on a developmental defect, he draws particular attention in the case of his patient to the peculiarity in the spinous processes of some of the vertebræ and more particularly to the presence of opaque nerve fibres in his patient.

THE SCOTCH FORM OF OATH-TAKING.

As might have been expected, the Scotch form of oath-taking is being adopted somewhat tardily, though it has attracted some notice and is still commented on by magistrates and lay journalists with amused sarcasm. On a recent occasion a medical practitioner on entering the witness-box at the West London Police-court objected to take the book in his hand on the ground that he might incur a risk of infection. The worthy magistrate suggested to him that he should kiss the inside of the book or the open page. To this the witness also objected, he not desiring to touch the book at all, and so was sworn with the uplifted right hand. At a recent inquest before one of the Middlesex coroners a juror objected to take hold of the book handed to him and three fellow-jurors also objected on account of the filthy state of its cover. At the risk of a little repetition we give the following extract from Stringer's "Oaths and Affirmations," second edition, p. 2: "It behoves commissioners for oaths and all court officials charged with the duty of swearing witnesses to always bear in mind that the Legislature has relieved every witness, and, indeed, every person required to be sworn for whatever purpose, and whether he swears or affirms, from the necessity of kissing or even touching any book whatsoever." And at page 75 we find that "all official persons, whether judges ..... coroners, magistrates, justices ..... having authority to administer oaths are bound to administer the Scotch form of oath to any person who desires to be so sworn without asking any question." It must be a great relief to many who are likely to be called as witnesses or jurors to know that they are no longer called upon to undergo an ordeal which to say the least is disagreeable. In considering such a subject it must be remembered that society is divided into two classes (1) those who keep themselves abreast or in advance of the times; (2) those who prefer to remain behind the times. To this latter class belong, we fear, many of those whose duty it is to administer the oath directly or through a subordinate officer, to whom it is a wearisome and monotonous duty which they are anxious to complete as fast as possible. To them and to others less anxious to make this a mere perfunctory duty the kissing of the book is so intimately bound up with oath-taking that this new mode of swearing with uplifted hand does not appear to be taking an oath at all; but this is absurd, and those medical and lay witnesses and those jurors who wish to keep abreast of the times will welcome the change. In these days of bacteria, microbes &c. the possibility of infection with scarlet fever, measles, small-pox or typhus fever by contact with the book is by no means so chimerical as magistrates and legal coroners would appear to think. Again, it has been proved beyond all doubt that syphilis has been communicated by mediate infection conveyed by pipes, cigars, cups, glasses &c., and can it be denied that a book may be equally potent to propagate this disease? Surely it is better to be in advance of the times rather than to wait and have this very unpleasant probability proved by practical experience. The swearing with uplifted hand is a form of oath free from any objection and is also much more solemn and impressive than the uncleanly mode of "kissing the book."

OPENING OF THE MEDICAL SCHOOLS.

THE majority of the medical schools of the metropolis will commence their winter session on Oct. 2nd. Those of St. Bartholomew's Hospital, Charing-cross Hospital, Guy's Hospital, St. George's Hospital, London Hospital, Middlesex Hospital, St. Mary's Hospital, University College, Westminster Hospital, the Dental Hospital, the National Dental College and the School of Medicine for Women will commence their labours on this date, whilst King's College and St. Thomas's Hospital will not begin until a day later. The Royal Veterinary College will open on Oct. 4th and the Pharmaceutical Society Medical School will inaugurate its winter session on Oct. 9th with an introductory address by Dr. T. Lauder Brunton. Amongst the other lecturers announced to give opening addresses are: Dr. E. Clifford Beale at Guy's Hospital, who is to read a paper on the Advantages and Disadvantages of making Mistakes; Mr. T. Holmes, who will deliver an address at St. George's Hospital in commemoration of the centenary of John Hunter; Dr. Pasteur, who will give the address at Middlesex Hospital; and Mr. J. Ernest Lane at St. Mary's Hospital. Mr. Bilton Pollard will discourse to the students at University College, and the address at Westminster Hospital will be delivered by Dr. Hebb. The Royal Veterinary College will commence its session with an introductory lecture by Professor Brown, C.B. A feature at the opening of many of the schools is the annual dinner. That of St. George's Hospital will take place at the Hôtel Métropole and H.R.H. the Duke of Cambridge is expected to preside. The old students of King's College will hold their annual dinner at Limmer's Hotel, Conduit-street, and the Westminster Hospital dinner will take place at the Holborn Restaurant. At the dinner of the London Hospital Sir Andrew Clark, Bart., will take the chair and Mr. Arthur Hensman, F.R.C.S., will preside at the Holborn Restaurant on the occasion of the dinner of the past and present students of Middlesex Hospital. St. Mary's and St. Thomas's Hospitals will hold their annual dinner at the Hôtel Métropole, where Mr. Herbert W. Page and Mr. A. O. Mackellar will preside respectively. The St. Bartholomew's Hospital students' dinner will be presided over by Dr. Andrew, and Mr. Christopher Heath will take the chair at the Hôtel Métropole, where the past and present students of University College will hold their annual dinner. Of the provincial schools, Mason College, Birmingham, Yorkshire College, Leeds, Owens College, Manchester, and the Sheffield School of Medicine will open for the winter session

on the first Monday in October. At the Sheffield School of Medicine Sir James Crichton Browne will inaugurate the opening by an address on the subject of Biology and Ethics, Professor Jebb will address the students at Mason College, Birmingham, and Professor T. Clifford Allbutt will distribute the prizes and deliver the opening lecture at Yorkshire College, Leeds. The University of Durham College of Medicine will commence its winter session on Oct. 3rd. The Scotch medical schools and universities will not open until nearly a fortnight later. University College, Dundee, will commence its session on Oct. 10th, and will be followed by the opening of Aberdeen University on Oct. 16th. St. Mungo's College will open on Oct. 18th with an introductory address by Professor Kent; and on the following day Glasgow University, Anderson's College and the Western Medical School, Glasgow, will commence the winter session. Professor Charteris will address the students at Glasgow University and Professor Thomas King will give the introductory address at Anderson's College, Glasgow. Amongst the Irish schools, Queen's College, Cork, will begin its winter term on Oct. 17th, whilst Queen's College, Belfast, will not commence until Oct. 31st.

DEATH OF MR. CHARLES CLAY.

WE regret to have to record the death of Mr. Charles Clay, L.R.C.S. Edin., L.R.C.P. Lond., who was widely known as "Clay of Manchester." He died on Tuesday last, at Poulton-le-Fylde, near Blackpool. Mr. Clay had reached the advanced age of ninety-one years and he was in the possession of good health for one of his age until the last, when he died suddenly. His name will always be associated with the revival of ovariotomy in this country. He operated for the first time in 1842 and successfully removed a large ovarian tumour. He regarded himself as being the originator of operation by the "large incision," and his claim to be considered the "Father of Ovariotomy" in England seems to be well founded. Like many men of original force of character Mr. Clay's activities overlapped the requirements of his own profession. He took an active interest in geology and was a well-known numismatist; he had also written much and ably on professional topics and was a frequent contributor to the columns of THE LANCET. We hope to give a more detailed account of his life in an early issue.

TRIONAL AND TETRONAL.

DRS. RARMINDI AND MARIOFFINI have been making some investigations upon trional and tetronal as hypnotics.[1] Trional is chemically diethylsulphomethylethylmethane. It is a crystalline powder, fusing at 76° C., is soluble in cold water, but is more soluble in hot water and alcohol; it has a slightly bitter taste. Tetronal is diethylsulphodimethylmethane; it crystallises in white flakes and is fusible at 86° C. It is soluble in water at the ordinary temperature, but it is more soluble in hot water and alcohol; it has a very bitter taste and an odour somewhat like camphor. As regards the clinical action of these bodies the investigators came to the following conclusions. 1. Trional and tetronal are hypnotics with an action similar to that of sulphonal; they act on the cortex of the brain. 2. One-half or two-thirds of a dose of trional or tetronal respectively produce the same hypnotic effect as a full dose of sulphonal. Both of the drugs were found to be successful after sulphonal had failed, but trional acted better than tetronal. 3 The general action of the ethyl group in producing hypnosis could be easily recognised, but at the same time an increase was noticed in the toxic action of these bodies in the following order: firstly, sulphonal; secondly, trional; thirdly, tetronal—in the proportions of 1, 1 and 3 respectively. 4. In small doses neither trional nor tetronal produced any diaphoresis, nor did they have any effect on the temperature of the patient; sleep and respiration appeared to be normal. 5. As with morphia, a certain tolerance of the drug was soon established, and it was found to be necessary to gradually increase the dose of the drug in order to maintain its hypnotic effects. 6. There was a slight accumulative action, and toxic phenomena occasionally occurred. 7. The secondary symptoms of intoxication were the same as those of sulphonal—namely, prolonged somnolence, headache, a sensation of tension in the head, and in the early stages incoördination of movement and ataxic debility. These phenomena were especially noticed after the prolonged use of tetronal in rather large doses. They ceased soon after the drug had been discontinued. 8. The ordinary therapeutic dose is from ten to thirty grains. When the use of the hypnotic requires to be prolonged—as, for instance, in the case of the insane—it is better not to employ tetronal, but trional or sulphonal. 9. The quantity of trional for a single dose varies from ten to forty-five grains, according to the age, sex &c. of the patient. If a prompt effect is desired it is advisable to administer the dose suspended in mucilage or milk and to have the mixture warmed. Both trional and tetronal should be given at bedtime, and not some hours before, as is necessary with sulphonal.

[1] La France Médicale, July 21st, 1893.

THE ETIOLOGY OF THE CHOLERA INCIDENCE AT HAMBURG.

THE recrudescence of cholera at Hamburg, related as it is to the new water-supply, is a fact of considerable etiological interest. The new filter-beds have been constructed on the island of Kaltehofe and the intake is much higher up the river than formerly. But the old pumping-station is still in use, and the filtered water is conveyed to the station by means of a large main which passes under a branch of the Elbe, at a point where the river is subject to pollution, to the engines, which are situated on the main land. In connexion with the new works some subsidence took place; unfiltered water direct from the river entered the main and was pumped to the Hamburgers, amongst whom isolated cases of cholera have occurred in all parts of the city. And, further, it has for some time past been known that the Elbe water has contained comma bacilli which were indistinguishable from those met with last year. It seems impossible to take water without risk for domestic purposes from a river known to be polluted by sewage, even when all modern contrivances, including filtration, are put in operation to remove noxious and specific organisms.

THE USE OF PHOTOGRAPHY IN MEDICAL TEACHING.

IT is a truism that after actual demonstration there is nothing so essential to reality in description as accurate pictorial illustration. Means may vary, but the fact remains the same. It is one which has been attested by the history of every art and science and in a conspicuous degree by that of medicine and surgery. For many years the skill of the draughtsman was alone employed in the work, and we cannot even now by any other process attain to quite the same exactitude of expression. We have more recently, however, added to this another power in photography, of which we may say that if it lacks the clear precision and the facility in using colour associated with the older method it offers instead other and important advantages. A fair idea of what these are and how best to avail ourselves of them may be gathered from the published reports of a photographic congress recently held at Chicago.[1] Some of the papers read on this occasion were specially devoted to the consideration of photography as an aid to medical teaching and one paper

[1] Vide Photography Sept. 7th, 1893.

possessed a peculiar interest as describing the system now in operation at the Bellevue Hospital, New York, which includes a department regularly organised for this purpose. As might naturally be expected from the conditions of its action, the camera has been found to be useful in the same degree, that the objects submitted to it are accessible to light. For this reason it is of great service in representing cases of deformity or of disease upon the external surfaces of the body, whilst internal organs and their disorders are much less easily definable; for work upon the latter class of objects, therefore, the stereoscopic method is to be preferred. One of the chief uses to which photography has been applied in connexion with disease is the fixation of the different stages of a surgical operation. Its rapidity and accuracy are here invaluable, whether the result obtained be intended for a permanent memorial or to serve as the basis of a still more accurate drawing. We should not forget to note that some judgment is required in selecting and instructing the patients to be photographed and to ensure their fitness to undergo even so slight an ordeal. The space at our disposal will not allow us to discuss this interesting subject at greater length; but enough has probably been said to remind our readers that we have here available for daily use an art helpful in many ways to the practitioner and the teacher of medicine.

THE PROBLEM OF ACCOMMODATION FOR INFECTIOUS DISEASES.

THE urgency of this problem in the metropolis increases and we must all sympathise, on the one hand, with the inhabitants of a parish or district in which it is proposed to erect a fever hospital, as in the parishes of Kidbrook and Charlton, or to make an extension of a fever hospital already existing, as at St. Ann's-road, Tottenham, and, on the other hand, with the authorities of the Local Government Board, with whom the ultimate responsibility rests of finding the accommodation. We repeat our conviction that some of this difficulty has been brought on the State by the levity with which it assumed the duty of supplying accommodation for the whole community without let or charge. Such errors cannot be rectified in a crisis like the present one. The only thing to be done now is to give the preference to those applicants whose home accommodation is most defective, and, where infectious hospitals must be forced on a neighbourhood, to deal justly with those whose interests are affected. If betterment is to be recognised, what is to be done in cases where the effect is the exact opposite? Seeing the difficulties which beset public accommodation it seems to have occurred to a nurse or other enterprising private person to start a home for infectious diseases in a populous part of Clapham. We cannot say that there is anything essentially unreasonable in this, and it might minister to a great public want on principles of personal independence which is apt to be sapped by all the State accommodations for everything; but if such houses are to be started it should be by permission of the local authorities and under strict sanitary supervision.

EHRLICH'S TEST IN TYPHOID FEVER.

THE value of the diazo benzol reaction in cases of typhoid fever is now fully recognised, but occasionally the test appears to be interfered with by various substances in the urine. Dr. Beringer[1] has lately made a series of experiments to discover the nature of these bodies and the modes of their occurrence, laying especial stress upon those which from internal or external administration are apt to appear in the urine. Neutral liquids, such as alcohol, acetone, paraldehyde, ether, chloroform and turpentine, were found to have no effect. The mineral acids and their salts, and organic acids, such as lactic, oxalic, acetic, tartaric and citric acid, and their salts, also gave no reaction; salicylates and benzoates gave an orange-coloured reaction, the line having a distinctly green tint. The following alkaloids and neutral principles likewise gave no reaction: quinine, strychnine, morphine, cocaine, atropine, caffeine, salicin and phenacetine. Upon adding a few drops of a 1 per cent. antipyrin solution to the mixed reagents there was at once produced the well-known green colouration produced by this substance with nitrites. Urea, uric acid, glucose and saccharose were all found to have no effect. Albumen gave an orange to a red-coloured reaction, depending on the amount present. Whilst pepsine gave but a green reaction the addition of a very small quantity of peptone resulted in the production of a distinctly pale-red colouration. The most minute quantities of phenol and creasote gave a dark red at once, and a single drop of a 1 per cent. phenol solution gave a reaction identical with that obtained from the urine of patients suffering from typhoid fever. Sulpho-carbolates of sodium and zinc gave a pale eosine red tint, which gradually darkened. Beta-naphthol gave a brilliant magenta colour and resorcin a dark reddish-brown. Thymol likewise produced the red colour, as did also gallic acid. With tannic acid the mixed test solutions assumed an orange colouration and the ammonia became red, a green-coloured line sharply marking the line of junction of the fluids. The lesson to be learnt from these observations is that when a reaction is obtained in doubtful cases of enteric fever inquiries should be made so as to exclude the possibility of the presence of these substances, which produce a similar colouration.

[1] Boston Medical and Surgical Journal, July 13th, 1893.

TOTAL EXTIRPATION OF THE UTERUS FOR FIBRO-MYOMA.

AN abstract of Dr. Boldt's paper on this subject, which was read before the American Gynecological Society in May last, is contained in the *Annals of Surgery* for August. From this it appears that in his experience the use of electricity in cases of uterine fibroid tumour has proved to be unsatisfactory, and indeed at times he has found that it aggravated the existing symptoms. In fifty-seven out of a total of 321 patients who were the subjects of fibro-myoma of the uterus Dr. Boldt advised surgical treatment, and in twenty-one of these cases the operation performed was total extirpation of the uterus. The mortality was exceedingly serious, as in seven cases, or one-third of the total number, the operation proved fatal. No doubt the risk of this operation would vary considerably according to the special features of each particular case. For instance, Bardenheuer, who recommended total extirpation for fibroid tumours as long ago as 1831, had seven cases with only one death; probably these were of a simple nature in respect to the mechanical difficulties of the operation. It should be remembered that fibroid tumours of the uterus constitute an actual source of danger to life less frequently than ovarian tumours. In some cases, indeed—beyond the patient experiencing a sense of weight at the lower part of the abdomen,—there may be really no symptoms at all. In other cases, whilst there are symptoms of greater or less urgency, such as hæmorrhage, pain and others we need not enumerate, these are capable of being controlled by judicious general treatment. We are of course leaving out of consideration cases in which there is a fibroid polypus, or submucous fibroid tumour, such as can be removed per vaginam with very little risk. It is with regard to cases of interstitial fibro-myomata more especially that the question of surgical treatment after an abdominal section has to be considered. We repeat that in many, we believe in the large majority, of these cases heroic measures are not called for. When the symptoms, and especially menorrhagia, are not amenable to the influence of the drugs usually employed, we may have

recourse to an operation of much less severity than hysterectomy—namely, removal of the uterine appendages, provided that the tumour has not reached too great a size—for example, that it has not extended much above the level of the umbilicus. So long as the various modifications of supravaginal hysterectomy, or total extirpation of the uterus, are attended by a heavy mortality, these operations cannot become the recognised means of treating uterine fibroid tumours in any but a small minority of all cases.

THE DIFFUSION OF SMALL-POX.

DURING the week ending Sept. 16th the following fresh cases of small-pox occurred :—London, 25 ; Bradford, 21 ; Birmingham, 19 ; West Ham, 8 ; St. George's, Bristol, 2 ; Tynemouth, 2 ; Wakefield, 3 ; and Leicester, 6. At the end of last week 99 cases were under treatment and isolation by the Metropolitan Asylums Board. The diminution at this time of the year, though substantial, is less than might have been hoped for, and the persistency of the disease in some towns is rather ominous as regards the prospects for next winter and spring.

THE "JENNER" COLLECTION AT BRISTOL.

AN account of a very interesting exhibition of Jennerian relics will be found in the present issue of THE LANCET. It is to the assiduity of Mr. Frederick Mockler of Wotton-under-Edge, who is, we understand, related to the Jenner family, that the public are indebted for the opportunity of viewing these mementoes of one of whom his profession will always be proud, and to whom humanity should always be grateful. Jenner's name and fame must be held in honour by all who have the welfare of their kind at heart. It is to be hoped that some permanent place may be found for this unique collection. The Royal College of Physicians of London, the central fane of medicine in Jenner's country, might take the suggestion into consideration.

THE INTERNATIONAL MEDICAL CONGRESS.

FROM Rome our own correspondent writes under date of the 14th inst. : " Commenting in a leading article in THE LANCET of Aug. 12th on the postponement of the meeting of the Congress from Sept. 24th to April of next year, you remarked on the great inconvenience the change would bring with it in the matter of accommodating the thousands of delegates in Rome during the season when, of all others, the hotels are fullest and the *pensions* are crammed to repletion. The dread of that inconvenience, it now appears, is shared by others besides THE LANCET and by none more than by the Comitato Centrale itself. That body now sees itself under the necessity of inviting the coöperation of those of its colleagues who form part of the organising committees of the nineteen sections into which the work of the Congress has been divided ; in fact a *mot d'ordre* has been issued to the effect that it is the intention of the executive committee that the isolated efforts of individuals should, as occurred at Berlin in 1890, be replaced by the collective activity of the organising committees above referred to. These will thus constitute so many families (*altrettante famiglie*), which will make it their endeavour to requite with corresponding courtesy the hospitality so graciously extended to strangers at the last Congress in Germany as well as at the Congresses that preceded it—a courtesy which will form an effective supplement to the entertainments which will be provided for all the 'Congressisti' without exception by the Comitato Centrale itself. The *mot d'ordre* in question, having for its object 'to show the propriety of so unanimous an extension of kind consideration to the visitors who in their own country were so lavish of hospitable attentions, and to secure the harmony of all individual proposals in that direction,' has been circulated by the Segreteria Generale amongst the presidents and the constituent members of the organising committees of the nineteen sections. Moreover, and still with a view to promote the convenience of the 'Congressisti,' there will, in addition to the 'Information Office' established *en permanence* at the seat of the Congress, be opened 'un ufficio di anagrafe' (an office for inscribing names and addresses), which will be in working order three days before the formal inauguration. There has, further, been nominated a special committee for the programmes and the *contes rendus* of the various sittings themselves. It will be the business of this committee to publish on the evening of each day a bulletin containing in the four official languages the summaries of the proceedings and discussions at the sittings of each section as well as the programmes for the sittings of every succeeding day."

PRESENTATION TO DR. BRISTOWE, F.R.S.

THE distribution of prizes at St. Thomas's Hospital on Tuesday afternoon, Oct. 3rd, will derive additional interest from the fact that it will be followed by the presentation to Dr. Bristowe of a testimonial subscribed by old students and past and present colleagues at St. Thomas's Hospital. The presentation will be made on behalf of the subscribers by Dr. Ord. Nearly £400 has been subscribed, the greater part of which has been very generously devoted by Dr. Bristowe to the foundation and endowment of a medal to be called the Bristowe Medal, which is to be annually awarded to a student of St. Thomas's Hospital for proficiency in pathology. A portrait of Dr. Bristowe has been painted for the subscribers by Miss Beatrice Bristowe. Those of our readers who visited the exhibition of the Royal Academy of this year may recollect this painting both as a work of art and as an excellent likeness of Dr. Bristowe.

THE PREVALENCE OF FEVER AT WORTHING.

WORTHING has not yet rid itself of enteric fever. As might have been anticipated, such an epidemic as visited the town has, after subsidence of the outburst, been followed by recurring attacks ; and, owing to the time of year which we are now approaching, a period during which enteric fever is usually most prevalent in this country, we can only be surprised that, after so wide a diffusion of the infection, the number of fresh attacks is not greater than reported. In Worthing proper they are from ten to fifteen per week, and in West Worthing they are much more scanty, only an occasional isolated attack being recorded. It has practically been settled that the new water-supply shall be procured from a deep well to be sunk at Sompting.

SALINE APERIENTS IN TIMES OF CHOLERA.

AMIDST the many things that have been written with regard to cholera and the various considerations and suggestions that have been brought forward no allusion has been made to the views which are held by many men of wide experience on a practical point which seems worthy of notice at the present time—viz, the risk that attends the use of purgative medicines, and saline purgatives especially, during periods of epidemic cholera and at places where that disease happens to be prevailing. Epidemics of cholera are happily rare in Europe and in this country, but they are common in India and in the so-called endemic area of Bengal proper, where cholera, although it fluctuates in its manifestations in connexion with season and climatic conditions, may be said to be permanent. Physicians and surgeons who practise in Calcutta and in India generally seem to have recognised the danger of strong purgatives, and especially saline purgatives, when cholera is present. We have had the curiosity to refer to a work which was published by the late Dr.

Norman Chevers, who was for many years the Professor of Medicine in the Medical College and who was also first physician of the College Hospital, Calcutta; and he speaks of the belief being so notorious that these were the exciting causes of cholera that he never gave salts or Seidlitz powders; and he adds that, according to Indian usage, he abstained from giving purgatives at night—in consequence, no doubt, of the fact that attacks of cholera occur so frequently then and in the early morning. It is not, of course, intended to imply that aperients give rise to attacks of Asiatic cholera. During the prevalence of cholera in a locality, however, there is often at the same time much diarrhœa prevalent, which, whatever be its exact nature, does not develop into cholera. The inhabitants of an affected locality may be said to be for the time in a state of unstable equilibrium, and a saline purgative or an indigestible meal may be the exciting cause of an attack of the disease. When cholera is present aperients of the mildest and simplest kind should alone be used and the fact seems worth bearing in mind when the custom of having recourse to saline purgative waters of different kinds is so common.

INFECTIOUS DISEASES AT BRADFORD.

WHATEVER may be the facts concerning the influence of the Bradford Small-pox Hospital upon the surrounding neighbourhood, there seems to be little doubt, from reliable information which has reached us, that a large number of cases have occurred in its vicinity. In addition to this it appears that the sanitary authority have now determined to abandon the hospital, and no more cases of small-pox are to be admitted there. For the future persons suffering from this disease are to be isolated at Scholemoor, and the patients at present there will be sent to the Gildersome Convalescent Home. It seems then, as far as can be gathered from the evidence which has reached us, that Bradford has had a somewhat expensive lesson. The present small-pox wing was apparently erected at no small outlay, and special means were adopted to sterilise the outgoing air. The experiment does not seem to have been a success, and the air of the wards is reported to have been at times very offensive. Apart, too, from the situation of the building, the administrative arrangements as regards the staff connected with the fever and small-pox hospitals do not seem to have been as good as could be wished, or which persons isolated for the good of the public have a right to expect. It is to be hoped that proper arrangements will be made at Scholemoor for the administration of the hospital and that the small-pox staff will be kept entirely distinct from that of the fever hospital. We are fully aware of the almost insuperable difficulties of managing a hospital for infectious disease, and we quite admit that it is not possible in practice to carry out a theoretical separation of the staff in all cases. Still, in dealing with small-pox, especially in the present state of vaccination in the country, every endeavour should be made to keep the members of the small-pox staff, from the medical officer downwards, quite distinct from those attending other infectious diseases.

"BLACK TONGUE."

DR. MASSIN has recently been studying the condition known as "black tongue," especially in regard to the pathology of the complaint.[1] It consists of a hypertrophy of the piliform epithelium. This epithelial hypertrophy is associated with the presence of a parasite, and the question naturally arises whether the parasite bears any causal relationship to the malady. This is, of course, difficult to decide, as so many forms of micro-organisms are constantly present in the mouth. Lancereaux and others have described a form of fungus in connexion with "black tongue," but Féréol, Vidal and Mathieu failed to find it. Dr. Massin found in his case colonies of micrococci arranged in zoogloea groups. He states that the organisms stained well with aniline dyes, but no capsule could be detected. He attempted to cultivate the germs, but was not successful; inoculations on animals also yielded negative results. The abnormal production of epithelium was found to start from the centre and to spread to the edges symmetrically and at about the same rate. Dr. Massin considers that this regularity of form and spread does not point to a parasite as being the prime causal factor. A remarkable tendency to hypertrophy of the papillæ of the tongue was also noticed, and although powerful antiseptic agents were applied they seemed to be powerless to arrest the spread of the complaint: corrosive sublimate, salol and boracic acid had no effect. The colouring matter with which the cells became impregnated did not appear to be of the same nature as that secreted by chromogenetic bacteria, but rather resembled that found in the cornea. From all these facts Dr. Massin came to the conclusion that this hypertrophy of the piliform epithelium arose from some trophic alteration and that therefore the affection should be placed amongst the group of benign neoplasms, closely allied to the papillomata.

[1] L'Union Médicale, Aug. 17th, 1893.

COMA AFTER OPERATION FOR EPILEPSY.

A CURIOUS case is related in the *St. Petersburger Medicinische Wochenschrift* by Dr. Tiling. As summarised in the last number of the *Neurologisches Centralblatt* it is that of a youth aged seventeen who had an epileptic attack eight days after an accident in which the lower part of his thigh was injured by a gunshot wound. After that there was a daily recurrence of the fits. Two operations were carried out—the first on the wound and the second for an abscess in the cicatrix. After the first operation the fits ceased for a brief period and after the second operation for a year; but the fits returned, being accompanied by pain in the cicatrix, and a third operation was performed. This consisted in extirpation of the scar and excision of a piece of the thickened small saphenous nerve and stretching of the sciatic and anterior cervical nerves. The curious thing about the case is that the patient did not awake from the narcosis, but remained comatose, being able to swallow, but unable to pass urine, which was drawn off. For twenty-four days he remained in this state, and five days later he was quite himself again, and the attacks have not recurred. A considerable difference of opinion was expressed in the discussion on the case, which was communicated to a medical society in St. Petersburg. It was regarded by some as a case of meningitis, whilst others urged the absence of signs of irritation and of paralysis as tending to disprove such a view. One of the speakers was inclined to regard the condition as an equivalent of the epileptic paroxysm, a view which has a good deal in its favour. The case, however, is an interesting and anomalous one.

THE TREATMENT OF TIC-DOULOUREUX.

DR. JARRE read a paper before the Académie de Médecine de Paris[1] on Sept. 5th on the subject of Tic-douloureux, in which he attempted to establish on a definite basis not only the pathology and mechanism of production of this painful affection but also the treatment, and he detailed the lines which he had adopted. He maintained that cicatricial lesions of the nerve were the cause of a large majority of the cases, and that the treatment consisted in attempting to remove the cicatrices. As a rule these lesions were situated in the alveolar region at the terminal extremities of the nerves. The most common causes of the cicatrices were

[1] La Presse Médicale Belge, Sept. 10th.

chronic alveolar-dental inflammation and conditions brought about by the faulty development of the lower wisdom teeth. The treatment indicated in such cases is to remove a portion of the alveolus together with the cicatrix which it encloses. The operation is best performed in three stages: firstly, the mucous membrane and periosteum covering the portion of the alveolus which is to be resected are turned aside; secondly, the piece of bone is removed; thirdly, the surface of bone exposed is well scraped The wound is then washed out and dressed with a pad of cotton-wool soaked in an antiseptic solution. The immediate results of the operation in Dr. Jarre's patients were at first a diminution in the number of attacks of pain, and finally, in four or five days, a total cessation of the symptoms. Ten cases, in which all other methods of treatment had been previously tried without success, completely recovered after this operation.

THE LATE SURGEON-MAJOR PARKE.

OUR obituary this week includes a sketch of the career, and a portrait (reproduced from a photograph by Messrs. Walery, Limited, to whom we wish to express our sense of their courtesy) of the late Surgeon-Major Parke and also a warmly appreciative contribution from the pen of Mr. H M. Stanley, the chief of the Emin Pasha Relief Expedition. Scant as was the recognition of Surgeon-Major Parke's services by the Government authorities, it is a pleasure to us to reflect that members of his own profession and others capable of gauging his merits vied with each other to do him honour in no niggardly fashion. "The rift in the lute" is all the more perceptible the more harmonious the music which issues from the instrument. That rift in the present instance was the action, or want of action, of the military authorities. Much as the medical profession appreciated him during his lifetime, we think that the perpetuation of his memory in some suitable form could not but have an influence for good on the profession generally and on that branch of it with which he elected to identify himself. There is no occasion, perhaps, to suggest just now the precise form which any such memorial should take, though possibly a Parke Prize or Medal at Netley would serve to keep alive the memory of one who had attributes which welded his private friendships into durable bonds and whose career is calculated to encourage all who, like Henry Lawrence, Charles George Gordon and himself, "try to do their duty" under difficult circumstances.

THE POST OF SUPERINTENDENT OF STATISTICS.

DR. OGLE will vacate the post of Superintendent of Statistics n the Registrar-General's Office on Oct. 31st next on the completion of the Census Report. His successor will probably be shortly appointed, and report is probably correct in assuming that he will be selected from the three candidates whose names were recently mentioned in the columns of THE LANCET—namely, Dr. Newsholme, Dr. Tatham, and Dr. Whitelegge.

NAPLES and its medical school have been plunged into mourning by the sudden death, under deplorable circumstances, of the Commendatore Cesare Olivieri, the distinguished Professor of Clinical Surgery in that seat of learning. It seems that he had lately undergone tracheotomy for a malignant local affection, attended with much suffering and by himself considered as incurable. The operation had been successful, but the relief proved to be only temporary; so, on the evening of the 17th inst., in an agony of pain, Dr. Olivieri with his own hand deliberately withdrew the cannula by which respiration was artificially maintained and died almost immediately of asphyxia. We shall give some account of the useful and brilliant career thus tragically and prematurely closed.

PROFESSOR POSTEMSKI and his colleagues in charge of the arrangements for the opening of the Red Cross Exhibition in Rome on the 20th inst. have had to announce the postponement of that ceremony until the middle of October next. To this step, which will not be unattended with inconvenience to exhibitors who have already arrived from a distance, Professor Postemski and his brother committeemen have been constrained by the difficulties they have encountered in forming, thus early in the season, an international jury to decide on the claims of the numerous competitors for the Red Cross prizes—notably, the "King Humbert and Queen Margherite Prize" for the "best means of picking up and transporting from the battlefield the wounded in time of war."

MESSRS. RIVINGTON, PERCIVAL AND CO. have kindly forwarded to us an early copy of the book on Fevers which they are publishing for Sir William Jenner. The volume embodies Sir William Jenner's Lectures and Essays on Fevers and Diphtheria, collected from the journals to which he had originally sent them for publication, the only alterations being contained in a brief note or two appended to some of the pages.

CHOLERA.

CURRENT NOTES, COMMENTS AND CRITICISM.

As the wheel of time goes round and events succeed one another people have to subject their views to the grindstone of facts. The medical history of the events that have occurred during the present epidemic has no doubt not been altogether satisfactory and reassuring to those who are dominated by some one particular theory or hypothesis as if it were an established truth complete in itself and capable of universal application. Dogmatists have of late had what is termed a "rough time of it" in their encounter with facts. To despise system is to despise knowledge and philosophy; but, then, the system must be a natural one and capable of covering all the phenomena it has to explain and not an arbitrarily devised and artificial one. Even a superficial survey of the present epidemic at home and abroad shows that one of its prominent features is the extensive area over which the disease is distributed rather than the intensity of the epidemic in any given locality or its radiation from one or several foci. There are two views in regard to an epidemic of cholera. One is that it is made up of a series of attacks or outbreaks acting as foci for the dissemination of the disease and dependent exclusively on human agency and facilities for its spread; that, as a stone thrown into the centre of a still lake is attended by a splash from which ripples extend outwards in ever-widening circles, so an outbreak or case of cholera is the focus from whence other cases occur, the totality of these making up an epidemic. The other view is that epidemics arise, develop and proceed in obedience to some primary natural law, to which other causes, be they what they may, are subordinate, and the holders of this view regard the conditions environing man as possibly of more importance than man himself in its spread, consequently they look to sanitation and hygiene rather than to measures against infection. Practically both are agreed, however, as to the importance of hygiene. There have not only been sharp outbreaks at the Humber ports, but cases have appeared at places as wide apart, for example, as London, Leicester, Retford, Rotherham, Leeds, Ashbourne (Derbyshire) and several other localities. The relation of cholera nostras and diarrhœa to epidemic cholera has never yet been traced out and it seems to us an important point. What is wanted in all investigations into the causes of disease is an open and unbiased frame of mind in receiving, considering and analysing all the evidence, and it is especially

necessary, in studying so complex a subject as epidemic cholera to be alive to the influence which the assumption of some partial and incomplete view insensibly exercises. As far as Grimsby is concerned, the facts point to defective drainage and not to water contamination.

In chronicling the history of the present epidemic we have striven to put forward the facts, to state the different views and inferences that had been drawn from them, and to assign to all of them the position to which they were in our judgment respectively entitled for consideration in order that our readers should be in a position to make their own deductions. Happily for this country and Europe there are commonly considerable intervals between widely prevalent epidemics of cholera, but this has the disadvantage that the facts and lessons of one epidemic are apt to be altogether forgotten in the one which follows. Be the cause of cholera what it may, there is no doubt that foul drinking-water is the most effective of all the agencies for its propagation. The discovery of Koch's comma bacillus lent a precision to this view by indicating the specific nature of the agent, but, drinking-water not being the only vehicle for its spread, it is of course necessary to supplement it by one of infection and importation. If we add to this the presence or otherwise of favouring conditions in the surroundings and in the individual we are supposed to hold the clue by which the apparently complex causation of cholera may be unravelled and reduced to its simplest terms. Not only is the comma bacillus the invariable concomitant, but, what is far more important, it is alleged to be the efficient cause of Asiatic cholera, operating through the medium of moisture or water sources fouled by a cholera-stool or carried in less obvious ways from one place to another by human agency. Now, no one acquainted with the accurate and original character of Professor Koch's work as an investigator and bacteriologist would be disposed to lightly regard or set aside his doctrines. But it cannot be yet averred that they are to be accepted as complete and demonstrated truths capable of universal application; their truth and adequacy to explain all the facts connected with cholera must be tried by the best of all tests—those of nature herself. We have so frequently and recently gone over the points that still require elucidation that there is no need to do so now—it would be as monotonous as the ringing of a bell; still, there are a few matters to which it seems pertinent to call attention. If the outbreak at Hamburg last year can be most satisfactorily explained on the assumption that it was a case of wholesale water-poisoning, the fact still remains that a cholera epidemic in India takes an opposite course to that of the water. The melting snows of the Himalayas and the rainfall on the hills flow towards the great rivers Indus and Ganges below; epidemic cholera proceeds from the plains of Bengal to the north-west, the Punjab, and the hills above. Again, it would be easy to cite instances in which the different members of a community using numerous independent sources of water-supply have suffered and ceased to suffer from cholera at the same time, and, on the other hand, there are many instances in which one portion of a community has escaped, although the whole community was using the same water-supply. Of course, it might be fairly urged in the latter case that the contagium, being a particulate, is not equally distributed in the water like a salt in solution, and individual vulnerability has also to be taken into account; but what we desire to direct attention to at present is the way in which cholera has comported itself and been disseminated in this country and at many places abroad during this epidemic. Quite a number of localities very distant from one another have been affected about the same time; in some ports the disease has to some extent taken root, in others it has not, the conditions being apparently identical and the facilities for importation about the same in both cases. In the case of Ashbourne the well-water, which was suspected of having caused 15 attacks and 9 deaths in the period from Sept. 6th to 14th, has been found full of bacilli which resemble those of cholera in every respect. It is no doubt almost hopeless to expect that the source of these will ever be traced, but the possibility of the well having been contaminated by dejecta from any of the 15 attacked should of course be eliminated. If it be the case, as alleged by bacteriologists, that comma bacilli are often present in mild cases of cholera unsuspected sources of infection may often occur; but is anything yet known about the origin and development of these bacilli in water under any conditions other than its specific contamination from human sources? The facts connected with the violent outbreak at the lunatic asylum near Constantinople, as set forth in THE LANCET of last week, are remarkable and significant; and the moral, which like all stories worth the telling lies on the surface, is that the most rigid quarantine was not effective in keeping out cholera from the asylum or from Constantinople. The system which has been adopted and followed in this country seems to us to be a far more practicable, judicious and proper one, in the interest alike of the public in general and the sick in particular, than a system of rigid quarantine, and we are glad to notice that the Government in this and in all other matters connected with cholera intend to act on the counsel given by the medical advisers of the Local Government Board. They bear the responsibility as well as possess the confidence of the public and the medical profession and should exercise their judgment without being harassed and embarrassed by all kinds of irresponsible advice. We have fared, so far at any rate, in this country better and not worse than our neighbours, and we think that it reflects credit upon the sanitary condition and state of the water-supply of this country and upon the sagacity and vigilance of our sanitary authorities that, notwithstanding the number of cases in the aggregate in so many different places, we have up to the present had no epidemic or outbreak of cholera on a large scale. It seems to us very important to bear in mind that the distribution of the disease-cause and its manifestation in force are two different things, and that the one need not follow closely on the other, and this may partially account for the distribution of the disease at the present time and for the proved ineffectiveness of quarantine, whilst it serves at the same time to warn us that, on the recurrence hereafter of meteorological and other conditions favourable to the development of cholera, manifestations of that disease on a more extensive scale may still appear. The present epidemic has not exhausted itself yet; it is not yet dead.

We pass on now to our record of the progress of cholera during the past week.

There is a slight increase of cholera in St. Petersburg; 63 cases and 82 deaths occurred on the 19th inst., as against 59 cases and 23 deaths on the preceding day. From the 14th inst. to the 17th inst. 206 cases and 81 deaths occurred in that city. From the 13th to the 14th there were 2 cases and 2 deaths at Cronstadt. At Moscow, from the 11th to the 15th, 33 cases and 17 deaths were reported; and at Warsaw, on the 13th, 1 case and 1 death. From the 3rd to the 9th inst. the returns from the provinces are: Volhynia, 303 cases and 115 deaths; Voronesh, 461 cases and 254 deaths; Kieff, 1022 cases and 398 deaths; Kursk, 474 cases and 157 deaths; Moscow, 392 cases and 162 deaths; Orel, 411 cases, 157 deaths; Radom, 27 cases and 17 deaths; Tula, 331 cases and 120 deaths; and Tschernigoff, 216 cases and 67 deaths. From the 22nd ult. to the 9th inst. there were 2262 cases and 777 deaths in Podolia; and from the 10th to the 16th inst. 126 cases and 38 deaths in Minski; 9 cases and 4 deaths at Vilna; and 70 cases and 29 deaths at Lomaka.

From Varna we learn that cholera seems to be on the decline in the Roumanian ports on the Danube. Cases still arise at Braila. The disease has also appeared in several of

the smaller towns and is spreading in the districts surrounding Tultcha, Bacan and Kustendje.

As regards Germany, it is noteworthy that, after a long period of immunity, there has been a recrudescence of the disease at Hamburg. From 6 to 10 cases occur daily, with the amount of fatality usual in cholera. This is what might have been expected after the large outbreak of last year, but it is extremely unlikely that there will be any repetition of the disease on a similar scale this year. The new cases are scattered over the suburbs, and do not occur in the city and in the vicinity of the harbour. Some cases have also appeared at Altona. A few cases of cholera have been reported to the Imperial Office of Health at Berlin during the week. They have mainly occurred on the Rhine at Papiermühle near Solingen, and 1 at Duisburg in Rhenish Prussia.

From Vienna we learn that cases of cholera are still making their appearance in Galicia and Hungary, where the disease showed a slight increase during the few days on which an increased temperature prevailed. According to the latest accounts 17 cases and 9 deaths were reported in Galicia and 16 cases and 9 deaths in Hungary between the 15th and 16th inst. Two fatal cases occurred quite recently in the Hungarian capital. Some experiments are reported as having been carried out at the Vienna Institute of Experimental Pathology under the direction of Professor Stricker and his colleagues. Six persons swallowed fluids containing large numbers of comma bacilli with complete immunity as regards any attack of cholera.

Reports from the Hague show that cholera still prevails to some extent in the Netherlands; at Rotterdam, Ysselmonde, Overschie, Gorkum, Leerdam, Gonda, Zwyndrecht, Delft, and other places sporadic cases have occurred. A case is reported at Amsterdam on the monitor *Tiger*.

Cholera still prevails to some extent at Constantinople. The recent severe outbreak at the lunatic asylum, Scutari, is rapidly declining. It is stated that the origin of the outbreak has been traced to the introduction of the disease by some pilgrims from Mecca, who were admitted into the asylum for insanity following sunstroke. It is alleged that there is no authenticated case of Asiatic cholera on the European side of the Bosphorus. The disease at Smyrna is fast disappearing.

As regards Italy, we learn by intelligence from Rome (up to the 20th inst.) that cholera still prevails at Palermo, Leghorn and Naples, but not to any great extent.

Accounts from Madrid show that the disease prevails at Bilbao and in villages in the province of Biscay. Nine cases of cholera were reported at Belchite, in Arragon, on the 19th inst.

From Paris a violent outbreak is reported as having occurred at Barrème, Basses Alpes, a village of 800 inhabitants. On the 13th inst. 13 deaths occurred and 30 persons were suffering from the disease. Cholera also exists at Brest, where there have been 183 fatal cases since the beginning of September and 68 fatal cases in the neighbouring villages. Paris is stated to be healthy.

As regards the latest cholera intelligence in this country we have to record that no fatal case has occurred in Hull, Grimsby, Rotherham or Cleethorpes since the 20th inst., and that no fatal case has taken place in Rotherham or Cleethorpes for nearly a week. With respect to the case of cholera which occurred on board the *Jennie*, a Norwegian barque lying in the Tyne, a bacteriological investigation has caused it to be regarded as one of Asiatic cholera. It is worthy of note that the barque has been lying in the Tyne since early in the month of August. It is rumoured that suspicions are entertained in regard to some sickness that has arisen at Ilkestone and at Appleton-le-street, in the Maldon rural district, and that medical inspectors from the Local Government Board have been despatched to those places. At Liverpool a fatal case occurred on the 20th inst. in an adult, who died after eleven hours, which is regarded as a case of Asiatic cholera, but the results of the bacteriological examination have not yet transpired. Some very suspicious occurrences have also taken place at Manchester, but it is certain that all the necessary precautions will be taken by the health officer, Dr. Tatham.

CHOLERA AT LEGHORN.

(FROM OUR OWN CORRESPONDENT IN ITALY.)

Sept. 16th.

"CERCANO DI NASCONDERLO" (they try to hide it), said a Neapolitan Commendatore to me the other day—"they" being the authorities and "it" the cholera. Your readers cannot have forgotten what was duly reported in THE LANCET shortly after the last explosion of the disease at Naples—namely, the solemn meeting of the town council which was convened to vote special thanks to the syndic for his "patriotism"—the patriotism consisting in his having kept the outside world in the dark as to the death-rate and so saved the prosperity of the town by not scaring away the *forestieri*. One is hardly surprised even now at such ostrich-like policy in Southern Italy; but that Leghorn, the advanced Tuscan seaport, should be adopting it is, to say the least, disappointing.

There is no doubt that a very formidable outbreak of cholera has within the last week declared itself at Leghorn, and yet the authorities think it opportune and wise to withhold from the Press and even from the local Comando dei Carabinieri (the police, in fact) the sanitary bulletins of which they are in daily possession. "Così," writes the correspondent of one of the leading Italian journals, "sono forzatamente nel caso di non potervi dare notizie precise sull' epidemia sviluppatasi a Livorno" (so I am perforce in the position of being unable to give you precise details as to the epidemic which has developed in Leghorn). What, however, does the outside world see? The precipitate stampede from the town of all who can afford to leave it and the crowding of Pisa, of Siena, of the Bagni di Lucca and of other Tuscan resorts by the refugees and their families. *Omne ignotum pro magnifico.* When will Italian municipalities learn that there is no corrective to panic like the truth, the whole truth and nothing but the truth, and that there is no provocative of exaggeration and the terror that springs from it so powerful as the uncertainty of ignorance?

The truth is that, like most Mediterranean seaports, Leghorn is in an exceedingly insanitary condition, and the authorities are in no hurry to court inquiry into the remissness by which the visitation of cholera has been incurred. Let me state a few facts for which I can vouch. For a considerable time, to be measured not by months but by years, the scavenging of Leghorn has been performed in a most perfunctory manner: the streets have been swept *in modo primitivo*—that is, not at all, according to our British notions; the drains have never been flushed or disinfected; and the contents of the water-closets have been allowed to accumulate till anyone who passes through the Via Ricasoli, for example—one of the most fashionable (*signorili*) streets,—has to quicken his steps and to hold his handkerchief to his nose. And the water-supply? For years and years (it is a local authority who speaks) no one has had the courage to adopt the "innovations" which have been introduced into all civilised towns in North-Western Europe—to substitute, that is to say, for the old leaking aqueduct which supplies the town a series of soundly constructed pipes to bring in pure water in the proportion which is required by the increasing population.

I will now tell you what was done when the disease began to project its ominous shadow over the Mediterranean littoral. A lazaretto was prepared and kept in readiness during the summer in a *palazzina* outside the Porta delle Colline. Until the 9th of the present month, however, no case occurred which necessitated admission. There were patients suffering from the usual "bowel complaints" and from the acuter forms of gastro-enteritis, but though some of these terminated fatally in their own homes there was not one case that bacteriological tests could ascribe to the Asiatic disease. At the city hospital cases began to be admitted in which the symptoms were violent enough to justify a consultation on the part of the medical staff, the result of which was that the Municipal Office of Hygiene was warned of the suspicious character of the cases in question, and, following this admonition, they

telegraphed to the Minister of the Interior, who at once sent the President of the Board of Health, Professor Pagliani, to the town. An inquiry was immediately instituted as to the origin of the suspicious cases, and it was found that a man who had returned from Marseilles had had his soiled linen washed by a laundress in the Venezia quarter, that the cholera had first established itself there, and that significantly enough its earliest victims had belonged to the *sesso debole* (the weaker sex). The quarter was at once isolated, and the energy of the authorities, under the inspiration of Professor Pagliani's presence, became well-nigh feverish—insomuch that the population, realising for the first time the gravity of the visitation, began to leave the town. In little more than forty-eight hours 35 cases were acknowledged and of these 10 died. The later figures show a sensible decrease both in patients and mortality, and from the noon of the 14th inst. to the noon of the 15th only 7 cases occurred, none of them being fatal. The panic has now subsided, though the refugees in the Tuscan interior are still disinclined to return to the town. Meanwhile the energy of the local authorities is displayed, often in the most vexatious fashion—a fashion, indeed, which would hardly be tolerated out of Southern Europe. A passenger train travelling from Leghorn to Pisa included an individual who suffered so severely from colicky tenesmus that his case became known to the other inmates of the carriages and an alarm was raised. The sanitary inspector at Pisa, having been made cognisant of the fact, stopped the further progress of the train, drew a cordon round it outside the Pisa station and there it remained and (so far as my information goes) still remains in quarantine, amidst discomfort and inconvenience of every kind, which of themselves explain the horror with which Italians regard "cholera time." They dread the precautionary or isolating measures as much as the disease itself.

Later, Sept. 18th.

In spite of official bulletins of a reassuring character the stampede from the cholera-smitten seaport of all who can afford it proceeds *pleno rivo*. Lucca, and still more the neighbouring Bagni di Lucca, are now so thronged with refugee Livornesi that the local authorities—dreading an outbreak of the disease—have placed an interdict on any more arrivals from that quarter by train. "Shut out from the door, they are now coming in by the window," to quote an Italian saying; in other words, debarred by rail, they are entering the Bagni di Lucca by omnibus, which literally sets down "loads" of panic-stricken Livornesi on the outskirts, and, there being as yet no "sanitary cordon" round the place, admission is gained at every available opening. Traffic—passenger traffic particularly—on the Leghorn-Pisa-Florence railway lines is daily becoming more difficult, all trains with third-class carriages undergoing rigorous inspection, all trunks and boxes and "hold-alls" being thoroughly overhauled in the search for soiled underclothing. In Leghorn itself the recrudescence of the disease admitted by the authorities as having declared itself on the 16th inst. is still on the ascending curve of the parabola, though the cases are described as being all *assai lievi* (rather mild). All Saturday's cases having occurred in the immediate neighbourhood of the hospital in the Via Magnani—that is to say, the zone to which the outbreak has hitherto, with but a slight indication of diffusion, seemed to confine itself—it has been decided to close for the time being the dispensaries and ambulance reception rooms in that quarter. The lazaretto above described receives the properly authenticated cases; seven out of the ten cases which were reported to the Office of Hygiene between the morning of the 16th and the morning of yesterday were undoubtedly cases of cholera. Of the cases announced in previous bulletins four were registered as dead last evening. These figures, as I have indicated, must be taken for what they are worth; they seem to have a special interpretation placed upon them by the well-to-do Livornesi.

CHOLERA IN RUSSIA.

(FROM OUR OWN CORRESPONDENT.)

THE number of cases of cholera in the capital continues to increase. At the moment of writing there are in all 136 patients under treatment, distributed in eleven different hospitals. Since the publication of daily bulletins has been recommenced the daily numbers of admissions and deaths have been as follows. Between Aug. 12th and noon on Aug. 19th there were 40 cases, 15 deaths, 1 recovery and 24 remained in hospital.

					Cases.	Deaths.
From noon on Aug.	19th	to noon on Aug.	20th	..	9	3
,,	20th	,,	21st	..	6	3
,,	21st	,,	22nd	..	11	7
,,	22nd	,,	23rd	..	12	4
,,	23rd	,,	24th	..	11	4
,,	24th	,,	25th	..	12	2
,,	25th	,,	26th	..	7	2
,,	26th	,,	27th	..	13	5
,,	27th	,,	28th	..	21	6
,,	28th	,,	29th	..	33	11
,,	29th	,,	30th	..	27	14
,,	30th	,,	31st	..	39	16
,,	31st	,,	Sept. 1st	..	46	13
,, Sept.	1st	,,	2nd	..	37	14

There have thus been in all 324 cases and 119 deaths from cholera in St. Petersburg in this year's epidemic. By far the larger number of cases continue to be drawn from the Vassiliefsky Ostrof, one of the largest of the islands at the mouth of the Neva.

The latest bulletins upon the course of the epidemic of cholera in the provinces indicate a still further spread of the disease. The returns are as follow:

				Cases.	Deaths.
Bessarabia (government)	from Aug.	8th to 14th	..	34	17
,, ,,	,,	15th to 21st	..	41	19
Viatka ,,	,,	8th to 14th	..	148	80
,, ,,	,,	15th to 21st	..	91	41
Grodno ,,	,,	8th to 14th	..	187	59
,, ,,	,,	15th to 21st	..	247	70
Kalicz ,,	,,	8th to 14th	..	114	61
,, ,,	,,	15th to 21st	..	78	44
Kaluga ,,	,,	8th to 14th	..	20	6
,, ,,	,,	15th to 21st	..	18	7
Kief ,,	,,	8th to 14th	..	740	284
,, ,,	,,	15th to 21st	..	789	297
Kostroma ,,	,,	8th to 14th	..	58	28
,, ,,	,,	15th to 21st	..	125	50
Minsk ,,	,,	8th to 14th	..	232	101
,, ,,	,,	15th to 21st	..	329	102
Moscow ,,	,,	8th to 14th	..	174	53
,, ,,	,,	15th to 21st	..	248	99
,, (town)	,,	15th to 18th	..	108	57
,, ,,	,,	19th to 22nd	..	82	38
,, ,,	,,	23rd to 27th	..	75	35
Orel (government)	,,	8th to 14th	..	689	243
Podolia ,,	,,	1st to 14th	..	1229	604
,, ,,	,,	8th to 21st (*sic*)		1722	653
Poltava ,,	,,	8th to 14th	..	283	127
,, ,,	,,	15th to 21st	..	199	85
Riazan ,,	,,	1st to 7th	..	14	10
Samara ,,	,,	8th to 14th	..	64	25
,, ,,	,,	15th to 21st	..	146	74
Saratov ,,	,,	8th to 14th	..	47	21
Simbirsk ,,	,,	,, ,,	..	57	32
Kertch (town)	,,	18th to 22nd	..	29	15
,, ,,	,,	24th to 30th	..	7	3
Sevastopol ,,	,,	8th to 14th	..	22	12
,, ,,	,,	15th to 23rd	..	34	22
,, ,,	,,	24th to 25th	..	5	3
Tambof (government)	,,	8th to 14th	..	6	4
,, ,,	,,	15th to 21st	..	18	6
Ufa ,,	,,	8th to 14th	..	6	3
Kharkof ,,	,,	,, ,,	..	182	87
,, ,,	,,	15th to 21st	..	274	118
Tchernigof ,,	,,	8th to 14th	..	85	39
,, ,,	,,	15th to 21st	..	161	47
Yaroslavl ,,	,,	8th to 14th	..	125	64
Don Cossack (province)	,,	15th to 17th	..	132	65
,, ,,	,,	18th to 21st	..	164	91
,, ,,	,,	22nd to 24th	..	113	60
Kuban ,,	,,	15th to 17th	..	62	44
,, ,,	,,	18th to 21st	..	58	35
,, ,,	,,	22nd to 24th	..	26	15
Astrakhan (government)	,,	8th to 14th	..	50	22
Warsaw ,,	,,	,, ,,	..	1	1
,, ,,	,,	15th to 21st	..	1	1
Volhynia ,,	,,	8th to 14th	..	120	39
,, ,,	,,	15th to 21st	..	228	72
Voronezh ,,	,,	8th to 14th	..	205	86
,, ,,	,,	15th to 21st	..	431	186
Ekaterinoslav ,,	,,	,, ,,	..	215	103
Kazan ,,	,,	8th to 14th	..	317	146
Kursk ,,	,,	,, ,,	..	778	310
Kutais ,,	,,	,, ,,	..	19	16
Mogilef ,,	,,	,, ,,	..	316	122
,, ,,	,,	15th to 21st	..	642	224
Perm ,,	,,	8th to 14th	..	21	15
Radom ,,	,,	15th to 21st	..	21	16
Smolensk ,,	,,	8th to 21st	..	6	6
Taurida ,,	,,	8th to 14th	..	58	36
Tiflis ,,	,,	8th to 14th	..	21	14
Tobolsk ,,	,,	8th to 14th	..	19	10
Tomsk ,,	from July	25th to 31st	..	19	11
,,	from Aug.	1st to 7th	..	14	7
Vladimir ,,	,,	15th to 21st	..	385	149
Nijni-Novgorod ,,	,,	1st to 7th	..	602	337
,, ,,	,,	8th to 14th	..	326	214
,, ,,	,,	15th to 21st	..	229	117
,, ,,	,,	22nd to 28th	..	118	60
Novgorod ,,	,,	15th to 21st	..	1	1
Cronstadt (town)	,,	22nd to 28th	..	2	1

The dates in the above list are all according to the Old Style.

St. Petersburg, Sept. 3rd (15th).

THE BRITISH ASSOCIATION AT NOTTINGHAM.

DURING the past fortnight the proceedings of the British Association—certainly the most valuable agent that science has for popularising her work and its results—have been of the deepest interest. We have already been able to report Professor Burdon Sanderson's learned account of the progress of biology, which was delivered on Wednesday, Sept. 13th, on the inaugural oration of the Nottingham meeting. This was followed on the next day by the opening addresses of the eight Presidents of the various Sections. In the Section of Mathematics and Physics Mr. R. T. Glazebrook, F.R.S., discussed Electrical Standards. In the Section of Chemistry Professor James Emerson Reynolds, M.D., D.Sc., F.R.S., dealt with Comparative Chemistry. In the Section of Geology Mr. J. H. H. Teall, M.A., F.R.S., took for his theme the Huttonian theory of the World's Formation. Sir William Flower read the address to the Section of Biology of their well-known President, Canon Tristram, D.D., LL.D., F.R.S. In the Section of Geography Mr. Henry Seebohm, the Secretary of the Royal Geographical Society, made Exploration his subject. Professor Shield Nicholson opened the Section devoted to Economic Science and Statistics; Mr. Jeremiah Head, M.Inst. C.E., that of Mechanical Science; and Dr. Robert Munro, F.R.S.E., discussed, in that of Anthropology, Man's Erect Attitude and the Brain of the Savage. It will be seen that whilst each of these addresses touches upon medical provinces, chemistry, biology and anthropology do so very nearly, and statistics and geography not so nearly, whilst geology, mechanics and physics do so much more remotely. There is thus no invidious distinction being drawn between the Sections on the ground of their relative importance, in reporting the proceedings of the first three more amply than their fellows. They concern us most.

CHEMISTRY AND MINERALOGY.

Comparative Chemistry.

Professor J. E. Reynolds, who delivered his address in the chemical theatre of University College on Thursday, Sept. 14th, referred to the Nottingham meeting of 1866 over the Section of Chemistry of which Dr. Bence-Jones presided. Professor Reynolds said that it was his agreeable duty to acknowledge the foresight of his predecessor as to the direction that medical progress would take. Dr. Bence-Jones then saw that modern methods of research in chemistry must profoundly influence medicine, and he urged the need of fuller training of medical students in that subject. Chemistry had now proved itself to be a powerful factor in the general progress of medicine and medical education, but there remained much to be done with regard to the chemical portion of that education. Importance, he said, is still attached to the knowledge of substances rather than that of principles, of products rather than of the broad characters of the chemical changes in which they are formed. Without this higher class of instruction it was unreasonable to expect an intelligent perception of complex physiological processes or of pathological processes which are chemical in their character, or, indeed, of much real appreciation of modern pharmacological research. The need for this fuller chemical education will doubtless soon be strongly felt, and the necessary reform will come from within a profession which has given ample proof in recent years of its zeal in the cause of scientific progress. The President then sketched the work of the year, which he considered had been substantial in character, although almost unmarked by discoveries of popular interest, with the exception perhaps of Moissan's invention of the artificial production of the diamond form of carbon. Amongst other interesting and valuable contributions to the work of the year, he mentioned the studies of Perkins on electro-magnetic rotation; those of Lord Rayleigh on the relative densities of gases; those of Dewar on chemical relations at extremely low temperatures; those of Clowes on exact measurements of flame-cap indications afforded by miners' testing lamps; those of Horace Brown and Morris on the chemistry and physiology of foliage leaves, by which they have been led to the startling conclusion that cane-sugar is the first sugar produced during the assimilation of carbon, and that starch is formed at its expense as a more stable reserve material for subsequent use of the plant; and those of Cross, Bevan and Beadle on the interaction of alkali-cellulose and carbon bisulphide, in the course of which they have proved that a cellulose residue can act like an alcohol radical in the formation of thio-carbonates, and thus they have added another to the authors' valuable contributions to our knowledge of members of the complex group of celluloses. (The readers of THE LANCET will perhaps remember that these subjects were dealt with in our columns at the time when they were first discussed by their authors at the meetings of the Chemical Society.) The President concluded his address by drawing an interesting comparison between the constitution of complex mineral bodies and the structure of strictly organic compounds, describing his experiments in the formation of silicon compounds containing nitrogen with much detail.

Isolation of Fluorine.

On Friday morning the theatre was crowded with an audience eager to witness the demonstration of the isolation and properties of fluorine, which had been looked forward to as a remarkable feature of the Nottingham meeting. Dr. Meslans, who assisted M. Moissan throughout his classic experiments, conducted the demonstration. Until quite recently fluorine was the only element that chemists, in spite of many endeavours, had been unable to obtain in the free and uncombined state, the difficulty lying not so much in want of means to separate the element from its compounds as in the fact that at the moment of its liberation it attacks and corrodes the vessel in which the operation is conducted. Some six years ago M. Moissan announced that he had at last succeeded in isolating the element and in ascertaining its properties, but the experiments are very difficult and the apparatus is very costly, and no other chemist has yet been able to confirm M. Moissan's results. It is therefore a matter for great congratulation that the demonstration was in every way successful.

Sir Henry Roscoe moved a vote of thanks to M. Moissan and Dr. Meslans. The vote, he said, must be regarded as coming from the whole Association.

Professor T. E. Thorpe seconded the motion, which was carried with loud cheers, and the President of the Section, Professor Emerson Reynolds, sent a telegram to M. Moissan congratulating him, on behalf of the Section, on the great success of the demonstration.

Iodine Value of Sunlight in the High Alps.

Dr. S. Rideal read a paper on this subject. The intensity of the light at St. Moritz in the Engadine during the past winter had been determined by him by means of its action in liberating iodine from an acidulated solution of potassium iodide.

Bacteriology in relation to Chemistry.

Professor Percy Frankland read a very interesting and comprehensive paper upon the above subject on Monday last. He observed that experience was beginning to show that the methods of bacteriological research were becoming more chemical in character. Selective fermentation, in which the organism evinces a choice of pabulum and eliminates also certain distinct products, was urged upon the notice of chemists as a process of great utility for the preparation of certain substances not to be obtained in any other way. The manner in which the characters and functions of micro-organisms could be more or less modified was described and many striking examples of what culture of the organisms could do in this direction were quoted. Professor Frankland proceeded to discuss the sanitary aspects of bacteriology more especially in connexion with water-supply and sewage purification. With regard to the treatment of sewage with precipitants, he said that this process was more effectual in removing organisms than in removing organic matter. The chemical examination of water when very carefully carried out frequently afforded indication as to the liability of a water to become polluted. Bacteriological examination was like seeking a needle in a haystack—the organism that could create mischief might be missed; perhaps there was only one present in a gallon of the water, and the results obtained by cultivation of successive cubic centimetres would, therefore, not be evidence enough to justify the bacteriologist in regarding the water as absolutely free from bacterial contamination. Thus reliance can only be placed on positive results, and not on results of a negative kind. The chemist is in much the same position, except that he can deal with infinitely larger quantities of water.

In conclusion Professor Frankland pointed out that in almost every direction in which bacteriological discovery was progressing it was abutting upon problems which would

require the most profound knowledge of chemistry for their elucidation and he advocated the urgent necessity that chemists should qualify themselves by the necessary preliminary study of botany, zoology and physiology for the exploration of those fertile fields of bio-chemical research.

After a few very brief remarks made respectively by Professor Burdon Sanderson, Dr. Schäfer, Dr. Cattle, Dr. Scott and Professor Allen, Professor Frankland suitably acknowledged the vote of thanks accorded him, but expressed disappointment, in view of the great number of experts present, that the paper had not led to greater and fuller discussion.

The proceedings of this Section on Tuesday were practically confined to papers and a discussion upon colliery explosions.

Explosions in Coal Mines.

Professor Harold B. Dixon (Manchester) opened a discussion on Explosions in Coal Mines, with special reference to the dust theory, which we have already placed before our readers.

BIOLOGY.

The Province of the Field-Naturalist.

In the absence of Canon Tristram the President's address was read by Sir W. Flower. Canon Tristram described himself as being an old-world naturalist whose researches had been not in the laboratory or with the microscope, but on the wide desert, the mountain side and the isle of the sea. Referring to the fact that this year is the centenary of the death of Gilbert White, the father of field naturalists and the first to observe and to recognise how much may be learnt from the life habits of birds, Canon Tristram pointed out what a vast field there was still left open for the practical observer. His whole address was an endeavour to impress upon his audience the value of shrewd, untiring, personal inquiry into causes and a warning that this kind of first-hand observation can never be superseded by the possession of instruments of precision. With regard to the importance of distribution he pointed out that a century and a half ago it had not come to be recognised that this, together, of course, with morphology and physiology, is a most important factor in determining the facts of biology. The field naturalist comes in here as the helpful servant of the philosopher and the systematist by illustrating the operation of isolation in the differentiation of species. "Take," he said, "the typical examples of two groups of oceanic islands, differing as widely as possible in their position on the globe—the Sandwich Islands, in the centre of the Pacific Ocean, thousands of miles from the nearest continent, and the Canaries, within sight of the African coast; both are truly oceanic groups of purely volcanic origin, the ocean depths close to the Canaries and between the different islands varying from 1500 to 2000 fathoms. In the one we may study the expiring relics of an avifauna completely differentiated by isolation; and in the other we have the opportunity of tracing the incipient stages of the same process. In the Sandwich Islands there is scarcely a passerine bird in its indigenous fauna which can be referred to any genus known elsewhere." This is the kind of fact that field observation brings to our knowledge, although its scope does not cease with geographical distribution or the resulting modification of form. The closet systematist is very apt to overlook or to take no account of habits, voice, modification and other features of life which have an important bearing on the modification of species. "For instance," said Canon Tristram, "on the solution of the problem of the migration of birds, the most remarkable of all the phenomena of animal life much less aid has been contributed by the observations of field naturalists than might reasonably have been expected. The observable facts may be classified as to their bearing on the whither, when and how of migration, and after this we may possibly arrive at a true answer to the Why? Observation has sufficiently answered the first question, Whither? There are scarcely any feathered denizens of earth or sea to the summer and winter ranges of which we cannot now point. We have arrived also at a fair knowledge of the When? of migration. Of the How? we have ascertained a little, but very little. There remains the Why? To say that migration is performed by instinct is no explanation of the marvellous faculty; it is an evasion of the difficulty. The sense of sight cannot guide birds which travel by night or span oceans or continents in a single flight. In noticing all the phenomena of migration there yet remains a vast untilled region for the field naturalist." In conclusion Canon Tristram referred to the question of "mimicry" and the whole vast subject of heredity as a department of natural science where the field naturalist might well contribute as lion's provider to the philosopher.

The Physico-Chemical and Vitalistic Theories of Life.

There was a large attendance in the Section of Biology on Friday, Sept. 15th, Professor Langley (Cambridge) being in the chair.

Dr. J. S. Haldane read a paper on the Physico-Chemical and Vitalistic Theories of Life. He reviewed the progress of physiology during the past half-century and argued that the physical and chemical theories which had been brought forward had not been verified and had thus completely failed as working hypotheses. Dr. Haldane then proceeded to state and examine the position of the vitalists, contending that vitalism was not merely an expression of the negative fact that there is an enormous residue of phenomena in physiology which are not explained by physical and chemical theories, but that it formed an exceedingly useful working hypothesis for physiology.

The Chairman opened the discussion by admitting that some twenty or thirty years ago many problems still unsolved were believed to be physical and chemical problems easy of solution.

At last year's meeting a committee was appointed to report upon the Physiological Action of the Inhalation of Oxygen in Asphyxia. The following conclusions were submitted:—1. In the case of rabbits asphyxiated slowly or rapidly oxygen is of no greater service than air, whether the recovery be brought about in an atmosphere contaminated by carbonic acid or completely free from carbonic acid, and whether artificial respiration be resorted to in addition or not. 2. Pure oxygen, when inhaled by a healthy man for five minutes, produces no appreciable effect either on the respiratory rate and volume or on the pulse rate and volume. 3. Oxygen, whether pure or somewhat diluted, produced no effect on one particular patient, who suffered from cardiac dyspnœa of moderately severe type, in the direction of amelioration of the dyspnœa, and compared with air inhaled under the same conditions produced no appreciable effect either on the respiratory rate and volume or on the pulse rate and volume. 4. An animal may be placed in a chamber the general cavity of which contains about 50 per cent. of carbonic acid, and be retained there for a long time, without supervention of muscular collapse, provided that a gentle stream of a respirable gas-air or oxygen indifferently be allowed to play upon the nostrils and agitate the surrounding atmosphere. The points which are not proved are—(1) whether oxygen produces marked effects, toxic or otherwise, when inhaled for a long time; (2) whether oxygen is of service in cases of cyanosis due to diminished respiratory surface—e.g., in pneumonia; and (3) whether oxygen is capable of bringing about the cure of many diseases in which it has received the credit of being a remedial agent. The committee urged that, as oxygen is of no greater service than pure air in cases of asphyxia, the experiment be made of keeping a few cylinders of air, together with nose- and mouth-pieces, ready for use in collieries.

ANTHROPOLOGY.

Man's Erect Attitude and the Brain of the Savage.

The President, Dr. Robert Munro, devoted his opening address to two topics—Man's Erect Attitude and the Brain of the Savage. He began by saying that there was one phase in the progressive career of man which had not hitherto been so fully illustrated as it deserved—viz., the direct and collateral advantages which the erect position conferred upon him. Man was distinguished from all other animals by the fact that in the normal position of walking or running he carried his body upright instead of horizontal or oblique. In this position all the parts of his body were so arranged as to require a minimum amount of exertion in the performance of their respective functions. The continued maintenance of this unique position in the case of man necessitated great changes in the general structure of his body; but it was in the distal extremities of the limbs that the most remarkable anatomical changes were to be noted. He then proceeded to point out how admirably the human foot was contrived to be at once a column for the support of the weight of the body and an effective lever in progression. By the mechanical arrangement of the tarsus the amount of energy expended in progression was reduced to a minimum and, when estimated proportionally to the size of the body, was believed to be considerably less than that requisite for the corresponding act in quadrupeds. The anatomical changes effected in the extremity of the upper limb he showed to be equally radical, but of a totally different character and scope. The same homologous parts were transformed into an apparatus for performing a series of prehensile actions of the most intricate

character, but amongst them neither locomotion nor support of the body formed any part. This apparatus was the human hand, the most complete and perfect mechanical organ nature had yet produced. The position of this perfect piece of mechanism at the extremity of a movable arm, attached to the upper part of the trunk, gave to man a superiority in attack and defence over all other animals, on the same principle that a soldier found it advantageous to fight from higher ground. Altogether there was in his physical constitution a combination of structures and functions sufficiently unique in its *tout ensemble* to place man in a category by himself, whilst at the same time all his morphological peculiarities had been brought about without the destruction of any of the primary and typical homologies common to all the higher vertebrates. In the intellectual and psychical manifestations of the brain, the undoubted organ of the mind, we found a class of phenomena which gave to man's life-functions their most remarkable character. The act of conscious sensation invariably took place through the instrumentality of a few nerve-cells, whose functional activity required to be renovated in precisely the same manner as the muscular force expended in walking. It had been proved experimentally that the volitional stimulus which regulated the various movements of the body started from definite portions of the brain according to the different results to be produced. This localisation of brain functions taught us that the homology which characterised the structural elements of the bodies of animals extended also to the component parts of their respective brains. From this it would be reasonable apparently to expect an increase of brain substance in every case in which the functional activity of a specific organ was extended. But Dr. Munro did not go so far as this. That man's brain and his intelligence were correlated to each other was a fact too axiomatic to require demonstration; nor could it be doubted that the relationship between them was of the nature of cause and effect. But to maintain that the amount of the intelligence was directly proportional to the size of the brain was to strain the laws of legitimate inference. In drawing any conclusion of such a nature from the bulk of the brain substance, there were modifying influences which could not be disregarded, such as the amount of cranial circulation and the quality of the brain cells. At the same time he allowed that all the various mental operations which would have their external expression in manual action could only take place through the medium of additional nerve-cells, and that hence the brain became gradually more bulky and more complex in its structure as man passed from his primitive condition to one where he had more scope for complicated and thoughtful action, the function of the hand and brain having been correlated in a most remarkable manner. Coming now more directly to his second topic, Dr. Munro said that the question whether higher psychical manifestations were or were not due to the working of some spiritual essence, capable of existence independent of its material basis, was one that plunged us into the midst of controversy. Professor Huxley contended that to attempt to draw an absolute structural or psychical line of demarcation between the animal world and ourselves would be futile, and that even the highest faculties of feeling and of intellect began to germinate in lower forms of life. Mr. A. R. Wallace, who held such a distinguished position in this special field of research, believed, on the other hand, that the cosmic forces were insufficient to account for the development of man in his civilised capacity. Natural selection, wrote Mr. Wallace, could only have endowed savage man with a brain a few degrees superior to that of an ape, whereas he actually possessed one very little inferior to that of a philosopher. This deficiency in the organic forces of nature Mr. Wallace essayed to supply by calling in the guiding influence of a "superior intelligence," which he defined as something intermediate between the "modern cultivated mind" and Deity. Only one, however, of Mr. Wallace's objections to the theory of natural selection as applied to man came within the scope of Dr. Munro's inquiry—namely, that which was founded on the supposed "surplusage" of brain power in savage and prehistoric races. Mr. Wallace maintained that savage man had, in an undeveloped state, faculties which he never required to use; that, in his large and well-developed brain, he possessed an organ quite disproportionate to his actual requirements—an organ that seemed prepared in advance only to be fully utilised as he progressed in civilisation. He looked upon the brain of prehistoric and of savage man as proving the existence of some power distinct from that which had guided the development of the lower animals through their ever-varying forms of being. Dr. Munro differed from Mr. Wallace in two directions. He believed that the "distinct power" referred to was only the gradually acquired and accumulative result of the exercise of the reasoning faculties, whilst the probability that many of the present tribes of savages were, in point of civilisation, in a more degenerate condition than their forefathers, who acquired originally higher mental qualities under natural selection, also militated against "the superior intelligence" theory. There must surely be some foundation of truth in the widely spread tradition of the fall of man, and, if such were the case, it would be natural to expect to find some stray races with inherited brains of greater capacity than their needs in more degenerate circumstances might require. Dr. Munro's opinion was that the so-called "surplusage" in the unnecessarily large brain of the savage was the organic representative of the energy expended in the exercise of the enormous complexity of human actions, as displayed in the movements of his body and in the skilful manipulations necessary to the manufacture of implements, weapons, clothing and the like. All such actions had to be represented by a larger bulk of brain matter than was required for the most profound philosophical speculations.

An Ethnographical Survey of the United Kingdom.

Mr. Brabrook read the report of the Committee on the Ethnographical Survey of the United Kingdom, from which it was apparent that a very excellent scheme is as yet not quite in working order. The report, which consisted mainly of a condensation and classification of the information supplied by local correspondents, hardly realised natural expectations of the results of a survey designed to study the physical types of the people, their peculiarities of dialogue, and the vestiges of older civilisation.

Anthropometry.

Dr. Garson exhibited and explained some of the instruments used in anthropometric investigation, amongst which was the craniometer of M. Bertillon, the head of the anthropometric department of the French police. After a paper upon the Origin and Development of Early Christian Art in Great Britain and Ireland, read by Mr. Romilly Allen.

Anthropometric work in large schools was described in an elaborate paper by Dr. Bertram C. A. Windle. The paper gave the results obtained in answer to a circular sent to the head masters of 100 of the largest schools in England, Scotland and Ireland, inquiring whether any, and if so what, anthropometric investigations were carried on in their institutions, and the methods adopted in taking the various measurements. The replies showed that some form of measurement was, or had been, carried on in twenty-five schools, details of which were given. They also showed that the methods adopted differed considerably, a fact which somewhat detracted from the value of the observations for comparative purposes. The advantages of systematic measurements of boys from the scholastic and the scientific points of view were alluded to, and it was suggested that an endeavour should be made to encourage and systematize such work in large schools.

Dr. Wilberforce Smith and Dr. Garson alluded to the fact that such observations were never made upon any uniform plan, and the President said that, without a clear, definite understanding between the different localities where these anthropometric investigations were carried on, the results were virtually useless, and that a large amount of labour had been for some time expended without producing reliable results. If investigations were taken in accordance with precise data previously agreed upon there would be an accumulation of results very valuable to humanity.

Skull Measurements of the Insane.

Dr. Crochley Clapham then gave a few of the results of his examination of the heads of some 4000 insane persons in eight asylums situated between the rivers Humber and Tay. The heads of insane persons were larger, on an average, than those of sane persons, though the weight of the brain matter was less. Of the various trades and professions represented in the asylums, gardeners had the smallest heads. The observations he had made were set out at full length in two articles on the weight of the brain in the insane and head size and measurement, which he wrote for Dr. Hack Tuke's "Psychological Dictionary."

Dr. Garson thought Dr. Clapham had made too much use

of circumference measurements. The diameters of the various portions of the brain furnished far more trustworthy data. Some years ago, in conjunction with Professor Flower, he made a series of observations on the brain of man and the anthropoid apes. They found that the proportions of the anterior arc in men and in monkeys were very similar in their percentage, whilst in the apes the posterior circumference was very much smaller than in man. In the lower races of man the posterior arc was also defective, so that between Europeans, the lower races, such as the Australians and Tasmanians, and the apes there was a regular series of gradations.

The President said that the science of phrenology, so popular a few years ago, was now discarded. He should not, however, like the principle of phrenology to be discarded. Ferrier and others had clearly established that many manifestations of emotion could be localised to certain parts of the brain; but Dr. Clapham's remark that in insane persons the skull was larger whilst the weight of brain matter was smaller than in the sane showed how difficult it was to arrive at any definite results from an examination of the surface of the skull.

MECHANICAL SCIENCE.

Utilisation and Disposal of Refuse.

AN interesting paper was read before the Section of Mechanical Science on Friday by Mr. C. C. Keep. The increasing demand for the electric light had been the means of bringing the question of the profitable disposal of the refuse of towns more prominently before the public during the last two years than at any previous time, and the writer hoped to show that it was not only possible, but practicable and economical, to light cities and towns, in whole or in part, by burning the refuse accumulation. The method depended upon a system of thermal storage. Mr. Keep dealt first with the refuse question, the disposal of which must be considered from the standpoint of public health and from that of finance, referring to the methods of disposal hitherto adopted. He passed on to advocate the destruction of sewage by fire, a method which completely complied with the requirements of public health, saying that the destructor, if properly designed and managed with care, could be placed in or quite close to cities without causing the least nuisance and at the same time be made a success financially. There were difficulties in the way, but these could be overcome by the adoption of Mr. Druitt Halpin's thermal storage system, which was peculiarly adapted for use with the destructor.

In the course of an interesting discussion that followed Professor Unwin said it was practically certain that in order to dispose of the refuse of towns satisfactorily it must be burnt and there would have to be a general recognition of the fact that heat generated by the burning should not be wasted, but stored in some way and for some useful purpose. The President (Mr. S. Head of University College) agreed that the burning of refuse in the thickly populated towns was becoming absolutely necessary, but pointed out that it was equally necessary that it should be completely burned and so made innocuous. He was sorry to say from his own experience that he had found that the primary result had not yet been fully attained. He hoped that all the engineers who were giving their attention to this subject would take care that everything discharged into the atmosphere from the destructors was innocuous to the public.

THE JENNER COLLECTION OF RELIQUES.

BRISTOL EXHIBITION, SEPTEMBER, 1893.

Fine Art Section, Exhibit No. IV.

LESS than a century ago (in 1796) Jenner made his decisive experiment in vaccination. After proving it to the uttermost and having convinced himself of its perfect power of defence against the most persistent and universal scourge with which mankind had been afflicted and multitudinously destroyed he, in 1798, published his famous "Inquiry into the Causes and Effects of Variolæ Vaccinæ." In the following year he obtained the adhesion to his thesis and a declaration of entire confidence in his practice from seventy leading physicians and surgeons. The knowledge of his discovery spread like a flame in straw throughout the then known world. It is not our purpose to write anew the story of his discovery—one of the most romantic in the annals of science—but to point out that, although it is withal so comparatively recent, many of us who in these days would probably have no existence but for his perseverance in spite of every obstacle and discouragement know nothing or but very little of the personality of this quiet, amiable, unassuming benefactor of his race. This collection, however, formed by Mr. Frederick Mockler of Wotton-under-Edge, comes upon us like a revelation. It places us in the position of being able to read not only the records of his triumphant achievement and subsequent world-wide fame, but to see the man in his home, in his habits, in his affectionate gentle life.

Consider for one moment. At this precise epoch Napoleon was at the head of the armies of France, a great destroyer incarnate, condemning countless thousands to perish in the fire of his insatiable ambition. What fierce and lurid a light beats upon him. Now contrast with him the one unaided humble village physician who, at the same period, was discovering and perfecting the means by which the depopulation of the globe was to be retarded and diminished. Of him how little is read in story! But these reflections lead into a train of thought too wide for our present purpose. If we have indulged in them it is from a desire to rekindle the enthusiasm which then existed for Jenner's work and which should never slumber or sleep in the minds of generous and grateful humanity.

Turn to the collection itself. In the first place there are five well-painted portraits of members of his family. These are Dr. Thomas Jenner, President of Magdalen College, Oxford early in the eighteenth century, probably his great uncle; his sister Elizabeth, and his two nieces Mary and Elizabeth. These are quite in the then prevailing Kneller style and may have been done by Kneller himself, judging by their fine quality. Next is a half-length portrait of the Rev. Stephen Jenner, vicar of Berkeley, in Gloucestershire, where Edward, his son, was born in 1749, and where he lived, pursued his experiments, practised, died and was buried. Then we come to a portrait of the great discoverer himself. This is a half-length oil painting; it was evidently done in the latter period of his life and is full of interest in connexion with those preceding. It is a capital likeness; the features are fully indicative of his character as traced in his career, his life and his works. Next in order is a miniature, endorsed by Dr. Jenner himself as by Robinson, 1809, and the artist has not omitted to put in the background the historic cow "Blossom." In the same glass case in which this is shown are other miniatures of his relatives. Again there are other portraits of Jenner—one engraved in line, after an oil painting by Hobday, "commenced by the late William Sharp," whose master work, arrested by death, was completed by Skelton. This brings in a reminder of Jenner's teacher and lifelong friend, John Hunter, on a volume of whose works his left elbow is resting. There are still others. A fine mezzotint by W. Say, after J. Northcote, with a cast of the "Sacred Cow" in the background. The original was painted for the Medical Society of Plymouth and Plymouth Dock, where, let us hope, it may yet be seen. The date is 1803; it is very lifelike and spirited. It should be remembered that the medical staff of the Navy were amongst the first to bear testimony to the extraordinary effect which the discovery had wrought in producing efficiency in His Majesty's Naval Service by extinguishing small-pox. A small print in line by Scriven. A proof impression in line and mezzotint of the oil painting by Sir Thomas Lawrence, a print of which serves as a frontispiece to Dr. Baron's "Life of Jenner." Lastly, a lithograph from a bust by Manning. In this, the decorative portion of the exhibition, there is abundant scope for speculation on heredity and descent. Jenner, with his homely rubicund face, peers out upon us through the mist of bygone years as the true "friend of man."

In another case are some objects which call for attention. An ivory statuette of Napoleon, with whom, as we shall see, he had some agreeable transactions; some antique silver spoons and cups, snuffers, snuff boxes, a Venetian drinking glass, a piece of hair from the tail of the first cow (Blossom) which gave virus for vaccine inoculation; a part of a stomach, the veins injected with sealing-wax, prepared by Jenner's own hands; a card, with seven ivory vaccine points as used latterly by himself; two water-colour drawings on ivory, showing vaccine pustules, seventh to eighth and eighth to ninth day delicately delineated; then the original drawings by Wm. Cuff, showing pustules in different stages, which were engraved by Skelton for publication in the

famous "Inquiry into the Causes and Effects of Variolæ Vaccinæ," and a considerable number of proofs of these engravings; also, both the original drawing and engravings of the hand of Hannah Excell, the historic milkmaid—this bears Jenner's autograph endorsement; then two beautifully finished and coloured plates of The Vaccine Vesicle, published for Ring's "Treatise on the Cow-pox."

Thirteen diplomas, certificates, freedoms &c are shown in frames. The certificates are of 1772, and signed by William Hunter, William Osborn and Thomas Denman, and by G. Fordyce; they refer to his London curriculum. The Guy's Hospital Certificate bears date 1802, and the Diploma 1820; whilst that from the Royal Medical Society of Edinburgh is of 1802, and that from Cambridge University, Massachusetts, U.S.A., 1803. The Royal Humane Society's of London is dated 1803—of this society he must certainly be accounted *the* most distinguished member. The freedom of the City of London was conferred in 1803; hard by is that of Dublin. In one frame are twenty-one proxies for voting at meetings of the Royal Jennerian Society for Dr. Edward Jenner in 1806, signed by such names as W. Wilberforce, Beaufort, Devonshire, Hertford &c. In Baron's "Biography," copies of which are present here, a list of Jenner's honours is given. There is also a list in Jenner's own handwriting. They are very numerous indeed; no scientific association in Europe neglected to confer on itself the honour of enrolling him a member.

Passing by the many autograph letters, which are mostly to his brother-in-law, the Rev. W. Davies; to his sister Mary, Mrs. Black, in one of which he tells her that "Parliament last night voted me the sum of £20,000 for making public my vaccine discovery," which was done in 1807; and to others, his relatives and intimate friends on purely personal and domestic affairs, we must notice one to the Emperor Napoleon Bonaparte: "Berkeley, Dec. 11th, 1809," petitioning for the release of "my relation, Mr. Milman, captain in the service of his Britannic Majesty, detained as a prisoner of war at Verdun" &c. Anent this it must be told that he was instrumental in procuring release from such durance in several instances. As Napoleon said on one occasion, when Josephine drew his attention to the fact that a petition which he had put aside unheeded was from Jenner, "Ah! I can refuse nothing to that man." But the English Government refused similar applications from him for the release of French prisoners of war, and there is correspondence with the Husson family showing this. Marie, Dowager Empress of Russia, sent him a charming letter and a diamond ring in 1802, whereupon he drafted a letter, had it translated into French and replied in suitable terms of acknowledgment. The French draft is here. In 1798 he presented the Prince of Wales with a copy of his "Inquiry into the Causes and Effects of Variolæ Vaccinæ," and the letter which accompanied it is in this collection.

Taking the autograph letters addressed to him, we see one from Rowland Hill, 1822, the year before Jenner's death, apologising for sending him so many patients. One from Lord Berkeley concerning a smart attack of fever and humorously describing the treatment to which he had submitted himself. The manuscripts are not very numerous, but we note as of deep interest the "Inquiry into the Causes and Effects of Variolæ Vaccinæ," with many notes and alterations in his own handwriting (he wrote a clear, neat, indeed, an elegant hand) and an autograph letter accompanying it, dated 1797—the year before its publication. Two visiting books; in one he refers to a visit to the Duke of Clarence. They are dated 1794 and 1803 respectively. The profession can judge what these may possibly reveal. There is a draft of his will, a document to ponder over. Documents concerning the writing of his life, which was entrusted by the family to Dr. Baron of Gloucester by Jenner's expressed desire. For this Baron received £150, as is shown by a letter from him. Besides these there are his account books, inventory and valuation of all the household furniture &c. at his houses in Cheltenham and in Berkeley; a "Royal Berkeley Lodge of Faith and Friendship, No. 449," minute-book, 1810, signed "Ed. Jenner"; legacy receipts signed by him. Then a valuable contribution in the shape of a letter from Thos. Christie, Medical Superintendent-General, Colombo, Feb. 10th, 1809, to the editor of the *Ceylon Government Gazette*, setting forth categorically the immense benefit conferred by the introduction of vaccination into the island in 1802. This is literally a *pièce de conviction*. The county of Gloucester subscribed for and presented a service of silver plate to Dr. Jenner. The bill amounts to £538 9*s.* 9*d.*, and is made out by Rundell, Bridge and Rundell of London to the Right Hon. the Countess of Berkeley. Other matters are with this piece.

"Dear Madam, I cend (*sic*) you something that will amuse you, Charlotte. June 5th, 1804." This is written by little Princess Charlotte to Lady Elgin, and is accompanied by a memorandum explaining that the Prince of Wales, to mortify his wife Caroline, who was justly proud of her lovely daughter's magnificent *chevelure*, ordered it to be cut off, which was done.

Of printed books and pamphlets there is quite a library, all the volumes bearing on the one topic. Jenner's own published works are here, as is most of the controversial literature which was ranged to do battle for and against the illustrious originator of vaccination. It is needless to describe them in detail. They have their value and are stones in the cairn which has been heaped up around an imperishable fame and name.

Of a lesser degree of interest are the documents relating to other members of the Jenner family—the Rev. Stephen Jenner and the Rev. G. C. Jenner, the doctor's nephew and helper. There are some forty rustic scenes, sketches and caricatures of Berkeley life by another nephew, Stephen Jenner. A tribute of an original drawing representing Æsculapius sending the goddess Hygeia to the four quarters of the globe to disseminate Jenner's discovery, in letters forming the name JENNER, is admirably executed.

There are, further, twelve water-colour drawings, from life, of the natives of New South Wales in Botany Bay, portraying them with singular fidelity and spirit; these have distinct and rare ethnographical value, the race having nearly disappeared. They were probably drawn by his brother, the lieutenant, who was lost in the wreck of the transport *Catherine*, concerning whom there are touching documents.

It were pity that this invaluable and unique collection, indisputably authentic in every particular, in excellent condition, and as complete as the knowledge, energy and devotedness of the possessor, Mr. Mockler, himself allied to the Jenner family, have succeeded in making it, should not find permanent lodgment in one or other of our colleges or indeed of our museums. If it has a primary attraction for men of his own profession, that attraction is not less powerful for all those who can appreciate the disinterestedness of him who, having the opportunity of selfish aggrandisement and of wealth beyond the dreams of avarice, revealed his discovery to the whole world. If the rags and tatters of a defunct conqueror are worthy of contemplation, how much more so should be these mementoes of a noble life spent up to the last in the cause of humanity, and whose devotion and dedication all must hold in honour and reverence, as did those who knew Dr. Jenner in the flesh.

MEAN DURATION OF LIFE IN MANCHESTER.

DR. TATHAM, the medical officer of health for Manchester, has recently issued a new edition of his Manchester Life Table with additions which materially increase the value of this important contribution to vital statistics.[1] The Life Table for the enlarged area which now constitutes the city of Manchester, based upon its mortality statistics during the ten years 1881–90, has in the new issue been supplemented by two additional Life Tables—one showing the expectation and duration of life in the Manchester township, which includes the older and more central portion of the city, and the other giving similar statistics for the outlying townships, which include a not inconsiderable proportion of more or less suburban population. The results derived from these two tables are, moreover, compared with the standard figures for England and Wales given in Dr. Ogle's Life Table, based upon the mortality statistics of the ten years 1871–80. This comparison presents some startling features and brings out in striking relief the true import of the terribly high death-rates that prevail in the older and more central portions not only of Manchester, but of nearly all large cities.

[1] Manchester Life Tables, New Edition, 1893. By John Tatham, M.A., M.D. Dub. &c.

Dr. Tatham's original Manchester table showed that the expectation of life at birth in Manchester city was 34·7 years for males and 38·4 for females, against 41·4 for males and 44·6 for females according to the most recent English Life Table. It appears from his valuable supplementary tables that the expectation of life for males, which was 34·7 for all Manchester, was only 28·8 in Manchester township, whilst it was 38·1 in the outlying townships; and, moreover, that whilst the general expectation for females was 38·4 the expectation was only 32·7 in Manchester township and was 41·6 in the outlying townships. Thus it appears that the mean lifetime is nine years less in the inner than in the outer parts of the city, and that the inner part shows a deficiency of about twelve years and the outer part of about three years when compared with the general English standard. In further tables Dr. Tatham points out that the greatest deficiency in the vitality of these different sections of the Manchester population occurs amongst children and amongst persons over sixty-five years of age. It likewise appears that in Manchester township the expectation of life amongst males at twenty-five years of age very little exceeds the general expectation amongst males in England and Wales at forty years of age, and that at the age of fifty the expectation in the Manchester township is only two-thirds of the general English expectation at the same age. It is worthy of notice, however, that in Dr. Tatham's words, "the few in Manchester township who reach old age compare favourably in their chances of very long life with the larger proportion of the general population who reach old age." This somewhat anomalous fact is attributed by him in great part to the fact that a very abnormally large proportion of the old people in Manchester township are in-door paupers, whose lives are probably prolonged through the care they receive in the Crumpsall Workhouse.

Dr. Tatham is to be especially congratulated upon the picturesque method he adopts for analysing the results of his Life Tables. The mean lifetime of a population, gauged by the life table method, is invaluable as a means of elucidating the true import of rates of mortality at all ages and at various groups of ages. It is necessary, however, to look a little deeper if we wish to find a correct answer to the question which has often been asked with reference to declining death-rates and increased mean life-time, "Are we young longer or mature longer, or old longer?" Or, put in another way, is the period of vigorous manhood being prolonged or does the recorded increase of life-time only mean reduction of infant mortality and prolonged decadence? In order to throw light upon this problem Dr. Tatham divides life-time into three periods: (1) childhood, from birth to fifteen years; (2) working period, from fifteen to sixty-five years; and (3) decline, sixty-five years and upwards. A comparison of the Life Table figures for these three periods in England and in the inner and outer portions of Manchester city gives the following results: The mean duration of childhood is eleven years in England, not more than nine in inner Manchester and is ten and a half in outer Manchester; the working period is twenty-seven years in England, eighteen and a half in inner Manchester, and twenty-five and a half in outer Manchester; and the period of decline is three years in England, less than a year in inner Manchester, and two years in outer Manchester. Thus of the mean life-time in England and Wales and in outer Manchester 65 and 63 per cent. respectively are lived in the working period, whilst of the much shorter mean life-time in inner Manchester only 58½ per cent. belong to this working period. In Dr. Tatham's words: "On an average each male child born in inner Manchester loses 10·5 years or 39 per cent., and each female child 9·8 years, or 34 per cent., of the normal working period of life." We may fairly assume that within certain limits what is true of inner Manchester is also true of the inner or central portions of most of our large towns. It becomes, therefore, a national question of primary importance how the improvement of the sanitary condition of the central and older portions of our large towns, which has long been in progress, can be materially accelerated.

The new Life Table for inner Manchester affords, as Dr. Tatham points out, the means of comparing the recent vitality of the population of inner Manchester with its vitality half a century ago. The late Dr. William Farr published in the Registrar-General's report for 1843 (not issued till 1846) a condensed Manchester Life Table based upon the mortality statistics of Manchester township, or what we have called inner Manchester, during the seven years 1838–44. Comparing these two life tables we find that child mortality, although still abnormally excessive, has declined remarkably; whereas of 1000 infants born in Manchester only 514 reached the age of five years fifty years ago, 643 now reach that age according to Dr. Tatham's new Life Table. Dr. Tatham points out that "in 1838–44 less than half the children born lived to be six years of age, whereas in 1881–90 more than half attained the age of thirty-one years; according to the last English Life Table, however, half of those born should live to be forty-six." But it is shown that, excluding childhood, there has been in the last fifty years no increase, but rather a decrease, in the mean life-time in Manchester, which decrease is considerable after forty-five years of age. This unsatisfactory feature of the comparison of the two Life Tables calls for more attention than we can now devote to it. It is one, however, of so much importance that we hope to find an opportunity to return to its consideration.

In closing this notice of Dr. Tatham's tables we can only express our strong conviction of their importance and recommend them to the notice and consideration of all those whose inclination or duty leads them to study or construct life and mortality statistics with a view to promote the success of the struggle now in progress against disease, suffering and premature death, especially in large towns. Dr. Tatham is one of the candidates for the post of Statistical Superintendent in the Registrar-General's Department, which is shortly to be vacated through the retirement of Dr. William Ogle. We may assume that no candidate for this post who has not as a medical officer of health shown marked capacity and distinct felicity in dealing with the statistical aspect of public health has a reasonable prospect of success. We further do not hesitate to state that any candidate who can justly claim to have handled and dealt with vital statistics in recent years more industriously, more successfully, and more scientifically than Dr. Tatham would be entitled to feel considerable confidence in the success of his candidature. The duties of the post are more distinctly statistical than medical, and in the interest of public health it is important that the right selection should be made. We can, however, only hope for the success, without favour, of the best candidate.

DEATH CERTIFICATION IN SCOTLAND.

THE following is an abstract of a paper read by Sir Charles Cameron, M.D., M.P., at the Congress of the Scottish Sanitary Association recently held at Ayr:—

Sir Charles Cameron said: After vain attempts extending over many years to obtain inquiry into the subject, I this session succeeded in getting the Government to appoint a Select Committee of the House of Commons "to inquire into the sufficiency of the existing law as to the disposal of the dead for securing an accurate record of the causes of death in all cases and especially for detecting them where death may have been due to poison, violence or criminal neglect." Differences of detail exist between the law of England, Scotland and Ireland, but the same principle underlies them—namely, that intimation of any death must be given to the local registrar, together with a medical certificate as to the cause of death, and that when no medical man has been in attendance the registrar shall fill up the details on such information as he can obtain or, in case of suspicious deaths, shall report the case to the coroner or procurator-fiscal, who, after inquiry, shall order what he believes to be the cause of death to be registered.

Now, so far as they can be taken as affording a record of the true cause of death and as ensuring the detection of it in cases where death may have been due to violence, poison, or criminal neglect, the class of certified deaths leaves much to be desired. According to Dr. Ogle a practice exists amongst a certain class of English medical practitioners of giving death certificates on forms specially printed for their own use, by which they are able to certify the cause of death in cases which they have not attended; but this is in England and we are in Scotland. The Registrar-General for England has told us more than one story of insurance frauds which owed their success to a loose method of giving certificates. Again, the Registrar-General for Ireland gave us details of several cases in which coffins had been buried alleged to contain the bodies of certain persons who had died on such and such dates at such and such addresses. Intimation of the burials having been sent to the local registrars, it was found that the deaths had not been registered, and on inquiry at the addresses given it

was discovered that no deaths had taken place there. You may say that this did not occur in Scotland. Quite true; but in Scotland we had evidence of several bogus deaths being registered and detected only by accident, or rather by the zeal of sanitary administrators, who for their own purposes have in certain cities voluntarily adopted a supervision never contemplated by law. It will be seen, therefore, that the information in all three countries which the present law secures as regards the cause of death even in the certified class is anything but satisfactorily and the safeguards against foul play anything but adequate.

But, imperfect as the system is in regard to certified deaths, it is a great deal better than in the class registered without any medical certificate at all. Two analyses of death statistics, one handed in by the Registrar-General for Ireland and the other by Dr. Russell of Glasgow, showed this very conclusively. The Irish document dealt with the proportion of uncertified deaths at the various age-periods occurring in the Dublin registration districts during the last three years, and what it showed was that the percentage was a minimum at the period when men and women are self-supporting and bread-winners—namely, between twenty and forty, and that it increased on each side of that age-period precisely as childhood or old age would render the deceased a burden on their friends. Dr. Russell's figures proved two things: that in Glasgow the certification of death in legitimate children was much more frequent and the mortality much lower than in illegitimate. The two sets of facts prove incontestably that the percentage of uncertified deaths, in those places at least where, like our large towns, there is every facility for obtaining medical aid, bears a direct ratio to the temptation, presented to survivors by the conditions of the deceased, to rid themselves of unwelcome burdens.

To my mind the deduction is unavoidable that the moral safeguard against crime and criminal neglect presented by the necessity for scientific certification, even when that certification is perfunctorily carried out, constitutes a valuable deterrent; but there is nothing in our Scotch law to prevent almost anyone escaping it. As a matter of fact some 4500 deaths, or over one in every twenty, are still in Scotland registered as uncertified. How worthless for purposes of vital statistics or for the detection of foul play the system enacted by law and enforced by those in control of our death registration is, may be illustrated by the fact that last year in Inverness-shire the uncertified deaths constituted over 42 per cent. of the whole, and that in Skye they largely exceeded those certified. I am quite willing to make any allowance for the difficulty of obtaining medical advice in a thinly-populated county, but it must be apparent that, alike for the purposes of vital statistics and a first line of defence against crime, the registration of deaths as practised in Inverness-shire is a mere sham and a waste of money to the full extent of its cost. To remedy the evils of loose certification the Select Committee on Death Certification has made suggestions which, if adopted, will in every case make certification a reality. A certifying officer should be appointed and in suspicious or mysterious cases it would be his duty to report the matter to the coroner or procurator-fiscal. Whilst in England the registration of deaths is regulated by an Act of 1874, in Scotland the principal Act dealing with the subject was passed in 1854 and the last amending Act in 1860. In England it is provided that intimation of a death shall in the ordinary course be sent to the registrar within five days of its occurrence, along with a medical certificate of its cause. In Scotland the period prescribed is eight days, and (although in practice in certain places, such as Glasgow, it is usual for the informant to hand in the medical certificate when giving information) according to law the medical attendant is himself bound to forward to the registrar a certificate of the cause of the death within seven days of its occurrence, and if on the expiration of that period the registrar has not received the certificate it is his duty to send to the alleged medical attendant a form of certificate partly filled up, which must be returned within three days after receipt. Dr. Littlejohn, the Edinburgh surgeon of police, stated that he had several times in suspicious cases been compelled to report to the Crown that, owing to the delay thus incurred, exhumation and chemical analysis would be futile. The evils resulting from this delay the Select Committee propose to remedy by extending to Scotland the shorter period for notification of death adopted in the English Act.

Another particular in which the Scotch law is even more defective than that of England is that relating to the interment of stillborn children. In Scotland no registration is required and the State takes absolutely no cognisance of the birth or interment. The Committee have recommended that stillbirths after the seventh month of gestation should be registered.

Coming next to the system provided by law for the investigation of mysterious, sudden and violent deaths, we there find a complete divergence between the laws of Scotland and the sister countries. In England and Ireland all such deaths are or should be reported to the coroner, whose business it is to investigate the circumstances attending them. In Scotland the same class of cases is reported to the procurator-fiscal and privately investigated by him. In theory the rules laid down for this officer's guidance leave little to be desired. Unfortunately the Crown Office in administering their system take too much for granted. In suspicious and mysterious cases, for example, it is evident that in almost every instance a careful post-mortem examination is indispensable if the real cause of death is to be ascertained. But from every quarter complaints were laid before the Committee that in order to keep down the expense post-mortem examinations were disallowed in many cases where the medical practitioners consulted declared them necessary. Cases of extraordinary looseness in the preliminary inquiries were cited to the Committee, especially as occurring in the remoter districts, though even in our large cities it was shown that considerable remissness still exists on the part of procurators-fiscal in reporting the results of their inquiries to the registrars. The proportion of cases reported to procurators-fiscal in Scotland is much smaller than that with which coroners are called to deal in England. Take, for example, the one class of children killed by being overlain, as it is called—suffocated, in fact, by persons whose homicide of them may have been accidental and without fault of their own, or may have been due to drink or criminal intent. In England, in 1891, close on 1,500 of these cases were the subject of coroners' inquests. In Scotland perfunctory secret inquiries may be made and an occasional prosecution ordered, but so rarely do the authorities in Scotland institute prosecutions in such cases that out of 400 cases reported to the police in Dundee in the course of a number of years no single case had ever been made the subject of a public trial.

There is an agitation springing up in Scotland, and I do not wonder at it, for the introduction into this country of coroners' inquests or something analogous to them. As for myself, I heartily sympathise with the demand. We heard a great deal about the usefulness of secrecy for ensuring the detection of crime. A good deal might have been said on the other side as to its tendency to facilitate the concealment of crime. I myself am a believer in the distinct advantages of publicity, not merely for the detection of crime, but as a deterrent against culpable carelessness and neglect.

REPORT OF THE COMMITTEE ON DEATH CERTIFICATION.

The following abstract of the difference between Scotch and English procedure in the matter of death registration is condensed from the Report of the Select Committee on Death Certification, of which we gave a general summary in THE LANCET of Sept. 9th,

The most salient point in which the Scottish law differs from the English and the Irish is that in Scotland there are no coroners, and no system of public inquiries into cases of sudden, violent, or suspicious deaths, the duty of investigating such cases devolving on the Public Prosecutor (procurator-fiscal) and the Crown. In all cases of sudden or suspicious death the procurator-fiscal holds a private inquiry, whose result, known as "precognitions," is communicated to the Crown officer, by whom the next step is dictated. In practice this arrangement does not seem to work well, for the percentage of investigated deaths is vastly lower in Scotland than in England, and there is ample proof that the procurator-fiscal frequently omits to send in his report. In three minor ways, also, the proceedings in Scotland with regard to suspicious deaths are open to improvement upon comparison with English methods: 1. From motives, it would appear, of economy post-mortem examinations are frequently not allowed, when without them the cause of death may remain a mystery. 2. Overlaying, so common a cause of infant mortality, and so often in England rightly the subject of a coroner's inquest, is, in Scotland, very rarely the cause of any action. 3. The privacy of the procurator-fiscal's proceedings does nothing, as an English inquest does, to allay suspicion, in cases where such suspicion seems to be well founded.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6433 births and 3919 deaths were registered during the week ending Sept. 16th. The annual rate of mortality in these towns, which had declined from 22·8 to 20·1 per 1000 in the preceding four weeks, further fell last week to 19·8. In London the rate was 17·5 per 1000, whilst it averaged 21·5 in the thirty-two provincial towns. The lowest rates in these towns were 11·2 in Derby, 12·0 in Plymouth, 12·2 in West Ham, 13·1 in Birkenhead, and 13·7 in Brighton; the highest rates were 25·8 in Liverpool, 26·0 in Hull, 29·6 in Newcastle-on-Tyne, 29·8 in Sunderland and 30·1 in Burnley. The 3919 deaths included 851 which were referred to the principal zymotic diseases, against 1006 and 916 in the preceding two weeks; of these, 518 resulted from diarrhœa, 89 from whooping-cough, 83 from diphtheria, 79 from "fever" (principally enteric), 43 from scarlet fever, 32 from measles and 7 from small-pox. These diseases caused the lowest death-rates in Halifax, Brighton, Cardiff and Croydon; and the highest rates in Burnley, Bradford, Sunderland, Gateshead and Hull. The greatest mortality from measles occurred in Blackburn; from whooping-cough in West Ham and Birkenhead; from "fever" in Swansea, Leeds, Preston, Hull and Sunderland; and from diarrhœa in Newcastle-on-Tyne, Salford, Sunderland, Blackburn, Bradford, Gateshead, Burnley and Hull. The mortality from scarlet fever showed no marked excess in any of the large towns. The 83 deaths from diphtheria included 65 in London and 3 in Gateshead. Two fatal cases of small-pox were registered in Birmingham, 2 in Bradford, 1 in London, 1 in Leicester and 1 in Oldham, but not one in any other of the thirty-three large towns. The Metropolitan Asylum Hospitals and the Highgate Small-pox Hospital contained 112 small-pox patients on Saturday last, the 16th inst., against 183, 144 and 121 at the end of the preceding three weeks; 20 new cases were admitted during the week, against 8 and 24 in the preceding two weeks. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2889, against 2894, 2884 and 2883 on the preceding three Saturdays; 315 new cases were admitted during the week, against 303 and 329 in the preceding two weeks. The deaths referred to diseases of the respiratory organs in London, which had been 138 and 150 in the preceding two weeks, were again 150 last week and were 22 below the corrected average. The causes of 51, or 1·3 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Leicester, Leeds, Newcastle-on-Tyne and in ten other smaller towns; the largest proportions of uncertified deaths were registered in Liverpool, Preston and Huddersfield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had increased in the preceding four weeks from 18·5 to 20·8 per 1000, declined again to 18·7 during the week ending Sept. 16th, and was 1·1 per 1000 below the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 16·6 in Greenock and 17·3 in Edinburgh to 21·8 in Paisley and 22·3 in Perth. The 528 deaths in these towns included 72 which were referred to diarrhœa, 19 to whooping-cough, 14 to "fever," 13 to diphtheria, 6 to scarlet fever, 4 to measles and not one to small-pox. In all, 128 deaths resulted from these principal zymotic diseases, against 116 and 136 in the preceding two weeks. These 128 deaths were equal to an annual rate of 4·5 per 1000, which slightly exceeded the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of diarrhœa, which had been 67 and 81 in the preceding two weeks, declined to 72 last week, of which 26 occurred in Glasgow, 15 in Edinburgh, 14 in Dundee and 8 in Aberdeen. The 19 deaths from whooping-cough were within one of the number recorded in the preceding week and included 8 in Glasgow and 4 in Dundee. The deaths referred to different forms of "fever," which had been 9 and 16 in the preceding two weeks, declined to 14 last week, of which 8 occurred in Glasgow and 3 in Dundee. The fatal cases of diphtheria, which had been 9 in each of the preceding two weeks, rose to 13 last week and included 7 in Glasgow, 2 in Leith and 2 in Paisley. Of the 6 deaths from scarlet fever, 5 occurred in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 72 and 60 in the preceding two weeks, rose again to 67 last week, but were slightly below the number in the corresponding week of last year. The causes of 40, or nearly 8 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 29·1 and 21·9 per 1000 in the preceding two weeks, rose again to 28·3 during the week ending Sept. 16th. During the past eleven weeks of the current quarter the death-rate in the city has averaged 26·7 per 1000, against 20·7 in London and 17·9 in Edinburgh. The 190 deaths in Dublin during the week under notice showed an increase of 43 upon the number in the previous week and included 43 which were referred to the principal zymotic diseases, against 48 and 36 in the preceding two weeks; of these 26 resulted from diarrhœa, 14 from "fever," 2 from whooping-cough, 1 from measles and not one from small-pox, scarlet fever or diphtheria. These 43 deaths were equal to an annual rate of 6·4 per 1000, the zymotic death-rate during the same period being 3·5 in London and 3·7 in Edinburgh. The fatal cases of diarrhœa, which had been 36 and 21 in the preceding two weeks, rose again to 26 last week. The deaths referred to different forms of "fever," which had increased from 3 to 8 in the preceding three weeks, further rose last week to 14, a higher number than has been recorded in any week since November, 1891. The 2 fatal cases of whooping-cough showed a further decline from the numbers in recent weeks. The 190 deaths registered in Dublin last week included 51 of infants under one year of age and 43 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons considerably exceeded those recorded in the preceding week. Four inquest cases and 3 deaths from violence were registered; and 55, or more than a fourth, of the deaths occurred in public institutions. The causes of 24, or nearly 13 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

MOVEMENTS IN THE MEDICAL STAFF.

THE following officers have embarked in the *Malabar* for a tour of service in India: Surgeon-Major Drury and Surgeon-Lieutenants Martin and Lawson. Surgeon-Major Dodd and Surgeon-Captain Leishman have re-embarked for India after leave of absence. Surgeon-Captain Nunnerley has been temporarily transferred to the North-Eastern District and Surgeon-Captain Brown has returned to Edinburgh from duty at Perth. Brigade-Surgeon Leslie has resumed the Medical Charge at Perth on return from leave of absence. The following officers have rejoined their several stations after leave of absence: Brigade-Surgeon-Lieutenant-Colonel Evatt and Surgeon-Major Trevor, Woolwich; Surgeon-Major Weston, Southern District; Surgeon-Lieutenant-Colonel Charlton, Dublin District; and Surgeon-Major O'Keefe, Belfast District. Surgeon-Major Day has been posted to the South-Eastern District and Surgeon-Captain Wight to the Eastern District.

INDIA AND THE INDIAN MEDICAL SERVICES.

The Queen's approval of the following promotions amongst the officers of the Indian Medical Services made by the Government in India appears in the *London Gazette* of Sept. 19th:—*Bengal Medical Establishment:* To be Brigade-Surgeon-Lieutenant-Colonel: Surgeon-Lieutenant-Colonel George Hutcheson, M.D. *Madras Medical Establishment:* To be Surgeon-Colonel: Brigade-Surgeon-Lieutenant-Colonel Daniel Frederick Bateman. The following appointments are announced: Surgeon-Major J. Maitland, M.D., to be Professor of Medical Jurisprudence, Madras Medical College, but to continue to act as Professor of Surgery and Clinical Surgery, Medical College. Surgeon-Major C. M. Thompson, M.B., to act as Professor of Medical Jurisprudence, Madras Medical College, during the employment of Surgeon-Major J. Maitland on other duty. Surgeon-Captain T. C. Moore, to act as Professor of Anatomy, Madras Medical College, during the absence of Surgeon-Major H. Allison, M.D., on leave. Surgeon-Major A. J. Sturmer, to act as

Professor of Midwifery, Madras Medical College, during the absence of Surgeon-Lieutenant-Colonel A. M. Brantfoot, M.B., on leave. Surgeon-Captain A. W. T. Buist-Sparks, to act as Civil Surgeon of Muzaffarpur during the absence, on deputation, of Surgeon-Major F. S. Peck, or until further orders. Surgeon-Captain C. C. Cassidy, to act as Civil Surgeon of Darbhanga during the absence, on deputation, of Surgeon-Major R. R. H. Whitwell, or until further orders. Surgeon-Captain G. C. Hall, to be Civil Surgeon, Cocanada, but to continue to act as Additional Medical Officer, General Hospital, Madras. Surgeon-Major H. Hamilton, M.D., I.M.S. (Bengal), officiating medical officer, 5th B. C., to the Medical Charge of the Bundelkhand Political Agency, in addition to his military duties, from July 18th, 1893. Surgeon-Captain F. P. Nichols, M.B., A.M.S., to the Medical Charge of the Cantonment Hospital, Trimulgherry. Surgeon-Lieutenant-Colonel E. Fawcett, I.M.S, to the Medical Charge of the Cantonment Hospital, Secunderabad. Surgeon-Major P. M. Carleton, on return from England, to the Medical Charge, Station Hospital, Meiktila. Surgeon-Captain W. Molesworth, medical officer in charge of the Detachment of Native Infantry and Station Hospital, Port Blair, to officiate as Senior Medical Officer in the Settlement, in addition to his own duties, during the absence of Surgeon-Lieutenant-Colonel D. P. MacDonald, M.D., who has obtained privilege leave. Surgeon-Major Armstrong, Army Medical Staff, has been posted to the Bombay Command, vice Surgeon-Major Corke, exchanged. Surgeon-Major Corke will be transferred to the Home Establishment from Sept. 7th. The undermentioned officers of the Army Medical Staff will proceed to England during the ensuing trooping season and will be detailed by the Commander-in-Chief in India for duty with troops embarking in the several troopships: Surgeon-Major A. Asbury, Surgeon-Captain H. M. Adamson, M.B., Surgeon-Captain R. E. Kelly, M.D., Surgeon-Captain J. F. Donegan, Surgeon-Captain J. Donaldson and Surgeon-Captain W. Hallaran, M.B. Surgeon-Major-General P. S. Turnbull, I.M.S. (Bombay), has been granted an Indian Good Service Pension, in place of Surgeon-Major-General J. Pinkerton, I.M.S. (Bombay), retired.

NAVAL MEDICAL SERVICE.

Staff-Surgeon John Wilson, M.A., M.D., is promoted to the rank of Fleet-Surgeon in Her Majesty's Fleet. The following appointments have been announced:—Fleet-Surgeons: W. H. Stewart to the *Empress of India* and T. D. Gimlette to the *Caledonia* (both dated Sept. 11th, 1893). Surgeons: Ernest D. Minter to the *Pembroke*, George A. Dreaper to the *Polyphemus*, James H. Dawe to the *Dolphin*, Edward M. Dobinson to the *Imogene*, and Ernest E. P. Tindall to the *Martin*.

VOLUNTEER CORPS.

Artillery: 1st Cumberland: Robert Lindsay Clark, M.B., to be Surgeon-Lieutenant.—1st Cornwall (Duke of Cornwall's) (Western Division Royal Artillery): Surgeon-Lieutenant W. K. Bullmore, M.D., to be Surgeon-Captain.

DEATH IN THE SERVICES.

The death is announced of Inspector-General J. Summers, Retired List, Army Medical Staff, at Aberdeen. Mr. Summers entered the Army as Assistant Surgeon, May 29th, 1840, and retired with the title of Inspector-General. He served in the Crimea and at the Battle of Inkerman did excellent service amongst the wounded. In India also he did good service in staying the ravages of cholera.

THE MISSION TO THE AMIR OF AFGHANISTAN.

Surgeon-Major Fenn, the Surgeon to the Viceroy of India, who has been nominated to act as Medical Officer, is accompanying Sir M. Durand's Mission to the Amir of Afghanistan. The mission, which may have very important political results, is proceeding by the Khyber route along the sites of the old camping grounds of the British force during the late war and the scenes of our occupation of that part of the country on that occasion. At the time we are writing the mission has passed the British frontier station into Afghanistan and will soon be at Cabul.

ROSS COTTAGE HOSPITAL.—Mrs. Matilda Chellingworth of Grendon Court, near Ross, has bequeathed £105 to the trustees of the above hospital for the benefit of the patients of that institution.

Correspondence.

"Audi alteram partem."

"THE REPORT OF THE SELECT COMMITTEE ON MIDWIVES' REGISTRATION."

To the Editors of THE LANCET.

SIRS,—You recently protested against much of the evidence which was brought before the Select Committee and especially against some given by Dr. Rentoul. I am not prepared to support that gentleman in the exact line which he took in every point, but I am prepared to say this, that, at all events, he clearly appreciates the fact that the better education of medical men generally, and in midwifery in particular, is desirable, and that if the midwifery practice of the country is not conducted as it should be matters will not be improved by transferring the practice to those who are less well educated. I am speaking from the point of view of the Legislature, because at present the practice of midwifery is in its view in the hands of registered practitioners. I have before tried to elicit from Mr. Humphreys an answer to this question: How are qualified midwives to obtain a livelihood from the small fees which the very poor are able to give, but without success. I say nothing of the means he proposes to adopt to convey these excellent persons to different parts of scattered agricultural districts. In his evidence before the House of Commons (974) he states: "First of all I would propose to show, with properly trained midwives, the mortality in childhood is very low." Will he kindly explain why it is that in countries like Germany, where midwives are trained and carefully controlled in their practice, there is so high a death-rate from childbed generally and from puerperal fever in particular? In his last letter to you I find astounding revelations. He states that leading obstetricians never see normal cases of labour except when they attend the wives of their colleagues. How is it, I will ask him, that four of the best nurses who have worked under me have also nursed cases, and doubtless will do so again, which do not come under his category, for such men as Dr. Champneys and Dr. John Williams?

Again, he states that although he has kept notes of his cases he learns little from them except what he can find in text-books. He, therefore, must have in his possession, or ought to have, all the facts connected with puerperal sepsis. Now I challenge him to give a clear account of the origin and nature of this sepsis and to name any text-book where I can find an account dealing with all the subtle points connected with it which possess any degree of certainty.

I am aghast at the idea which Mr. Humphreys sets out in his letter, and which was also set out fully by different persons to the House of Commons, that it is an annoyance to attend women in their confinement. If practitioners can find no pleasure in the scientific aspect of their work certainly they had much better deliver midwifery into the hands of midwives. If, on the other hand, they desire to study science they cannot, I assert, afford to give up any portion of their work, and certainly not midwifery, until they have at least thoroughly explained all the phenomena of puerperal sepsis and attained a pitch of perfection which cometh not to the ordinary run of mankind. Mr. Humphreys and others seem to think that the whole practice and science of midwifery consists in delivering the woman. It is no such thing.

I am, Sirs, your obedient servant,

Hatfield, Sept. 17th, 1893. LOVELL DRAGE.

To the Editors of THE LANCET.

SIRS,—In reply to the remarks of Dr. Alexander in THE LANCET of Sept. 16th, I reaffirm all I have said in evidence. Your correspondent makes use of the words: Dr. Rentoul "is alleged to have said." What is the use of these indefinite words? Either I did or did not use certain words in my evidence. Had those interested obtained a copy of my evidence to the Select Committee on Midwives Registration and there noted my words it would have been better. When I gave evidence on May 19th, 1892, an imperfect report appeared next day in the Liverpool papers. Had your correspondent written to me and asked whether the report of my evidence was correct as it there appeared, he might have found that I did not say that which I am "alleged" to have said.

According to the Blue-book No. 289, p. 28, I said: "In one hospital with which I was connected we had a very small puerperal death-rate, but we managed that by removing all the women that we thought were going to die from the puerperal wards into the medical wards, consequently we were able to certify that during the year not one lying-in woman had died in the maternity wards." Being pressed to name the hospital, I said "No."

Your correspondent tries to show that I did not use these words in my evidence. He says it is "alleged" that I stated "that at one time I was connected with a hospital in Liverpool where they were able to say that there had been no deaths during the year from puerperal fever, but that this was done by the removal to the medical wards of all women who were likely to die from that cause after a certain period." It will be noted that I used the expression "we had a very small puerperal death-rate," and not the words "no deaths." Next, I did not refer to deaths due to "puerperal fever," but to the "puerperal death-rate," two very different conditions. Was I wrong in stating that women were removed from the lying-in to the medical wards? Let your correspondent's letter to the Select Committee answer. He says therein: "It is quite true that any lying-in case that becomes feverish is removed from the lying-in wards either to the medical or for some years to a special surgical ward." I take it that your correspondent's letter, therefore, proves my statement to be accurate.

My next evidence was that all the deaths occurring within one month after confinement were not so notified in the official medical certificate of the cause of death; that the "Suggestions" of the Registrar-General were not carried out; and that therefore the true local and imperial death-rate is not given. To prove the accuracy of this statement I shall again use your correspondent's words. He says that no practitioner is "legally" bound to state the fact in his certificate where a woman dies within one month after her confinement. But the Registrar-General gives no less than ten most important "Suggestions," in which he lays down clear rules for the guidance of those practitioners who give a medical certificate of the cause of death; and I hold it is the duty of every person who prizes the accuracy of mortality statistics to obey these "Suggestions." However, on the showing of your correspondent, puerperal death statistics are not accurate. He further says: "The month is not expressly stated to be one of thirty-one days." As there is only one month of twenty-eight days and four of thirty days, and as it is the happy theory that our imperial statistics should be made as accurate and trustworthy as possible, let us hope that the month means thirty-one days.

Now as to the particular statistics which your correspondent refers to. In my evidence I stated that the figures relating to puerperal mortality were most unreliable. I take the statistics of this hospital to prove this evidence and I give the following extracts from official and documentary evidence before me. Thus a woman aged twenty-one was confined on Feb. 10th, 1891, and died on Feb. 25th, or fifteen days after her confinement, and the cause of death was stated as "miscarriage, peritonitis"; a woman aged twenty-four was confined on July 20th, 1891, and died on Aug. 14th, or twenty-five days after her confinement, and the cause of death was given as "phthisis"; and a woman aged twenty-four was confined on Dec. 27th, 1891, and died on Jan. 25th, 1892, or twenty-nine days after her confinement, and the cause of death was stated to be "cerebral abscess." I notice your correspondent states that the first patient died "over a month" after her confinement. These dates show that in only one of three cases was the fact that death occurred within one month of confinement stated in the official medical certificate—that is, an inaccuracy of about 66 per cent., and one which, if carried out all over England, would make our puerperal mortality statistics absolutely unreliable. It is little wonder that the Registrar-General, in his Fiftieth Annual Report, 1887, p. 34, says: "At the same time it must be admitted that childbirth mortality is in all probability very much understated in our official returns, the fact of parturition being often unjustifiably omitted and the secondary cause of death alone stated in the medical certificate ..... According to the best authorities, this proportion is much too low to be probable." (Evidently the Registrar-General holds it to be "unjustifiable" conduct to avoid reference to the one month.)

Your correspondent refers to a "local register" of his. I have nothing whatever to do with this. I have dealt only with the total confinements, the total maternal deaths, and the official certificates of the causes of death, as sent by the Registrar-General, although I might use this "local register" to show that no woman "had died in the maternity wards."

I note that a high eulogium is paid to the medical officers, superintendents, midwife, and assistants at the hospital referred to by your correspondent. Let me further add that no hospital possesses more highly trained medical officers, superintendents and nurses.

As to my suggested "trick" in offering £5, the assertion that the books of this hospital were "cooked," and that I make a "wanton, malicious and unprovoked assault," I can easily pass these over, not wishing, as I said before, to indulge in personalities. I, however, renew my offer of £5 if my evidence is untruthful, and in order to see whether it is true "that the misstatements of Dr. Rentoul are so notorious among the medical profession in Liverpool that they only evoke a smile."

I would add another word about unreliable puerperal statistics. An attempt was made before the Committee to show that the puerperal death-rate amongst women attended by midwives was much lower than when they were attended by medical practitioners. I denied this absolutely and said that their death-rate was small because practitioners were called in to finish their work. It has been shown—see report—that at the Royal Maternity Charity, India, in the eleven years 1881–91 medical practitioners were called in to no less than 1392 midwifery cases.

I am, Sirs, yours obediently,

Liverpool, Sept. 18th, 1893. ROBERT REID RENTOUL.

To the Editors of THE LANCET.

SIRS,—In a letter which you were so kind as to publish in your columns I endeavoured to arrive at some approximate estimate of the ultimate results of the registration of midwives by means of bringing the question to issue on the following principle—that is to say, in the first place, I based my calculations on the fact that registration must either increase, decrease or maintain midwives at their present ratio; and I then pointed out the perils resulting from either an excessive increase or decrease. Mr. Humphreys, in a somewhat erratic letter, appears to have bungled up in his mind facts with opinions, as the following quotation clearly illustrates, because in speaking of me he says: "He appears to regard the fourteen or fifteen opinions he has given in his letter as facts." I ask Mr. Humphreys, therefore, how he manages to conjure the fact that registration must either decrease, increase or retain midwives at their present number into "fourteen opinions." I will now proceed, Sirs, with your permission, to traverse Mr. Humphreys' letter as briefly as possible: 1. Mr. Humphreys attempts to refute my inference that a decrease or increase of midwives would be perilous, and he endeavours to do this by bringing forward exceptional cases which have occurred within his knowledge. My answer to this is that we should argue from the rule and not from the exception, and that I could, if space permitted, give more numerous counter cases. 2. Although, as Mr. Humphreys says, "it was clearly shown before the Committee that trained midwives had a remarkably low puerperal death-rate," no comparison was attempted between these and untrained ones, because the former—i.e., the trained—were compared to all classes practising midwifery; therefore, as the bulk of midwifery is attended by medical men, the inference is that the antiseptic treatment referred to is neglected by our own profession, it having at the same time been shown that the use of perchloride of mercury as an antiseptic accounted for the low death-rate amongst trained midwives. This, consequently, can be no evidence as to the difference of mortality between trained and untrained midwives. 3. Even admitting that the mortality is very favourable amongst trained midwives, this, to my mind, is no evidence that registration will not increase mortality, because the disastrous effects of an increase of midwives on the educational opportunities of the profession and the vast inroads which the sacrifice of "natural cases" would make in the every-day and routine practice of medical men, thus detracting from their experience, might infinitely outweigh the apparent advantages of registration. Yet Mr. Humphreys asks "how registration can act in the direction of increasing the mortality." 4. With regard to my assertion that certificated midwives have not eliminated the Gamps," Mr. Humphreys illustrates exceptional cases which might appear to militate against such an assertion, but that there are a great number of untrained midwives conducting midwifery everybody knows; indeed, they are doing so under

my own eyes. However, admitting for the sake of argument that the certificated midwives continue to oust the uncertificated, why does Mr. Humphreys require registration? Surely it is better to gradually effect a change in a system which has crept into existence through many generations and which is being superseded by an improved system—i.e., that of certificated midwives—than it is to attempt to hasten such a process by an Act of Parliament which, for aught we know, might cause the whole obstetric fabric to totter to its very foundation? 5. I repeat that there are any number of medical men who attend midwifery for the same fees as uncertificated midwives, and it is absurd to attempt to produce a creditable class who could, on the whole, work at a more modest scale of charges than numbers of medical men. 6. In answer to Mr. Humphreys' question, "I should like to ask him [i.e., myself] what amount of knowledge he usually acquires when he attends a natural labour," I answer that if this Act had come into operation before I had acquired my experience, whatever that may be worth, and if the "natural cases" had through female enterprise having been stimulated to too great a pitch been absorbed by local registered midwives, I could not hold the post I now hold. Moreover, Mr. Humphreys forgets that the results of registration would show themselves on the rising generation and not so much on those who have gained experience. 7. Mr. Humphreys in scoffing at every-day experience and routine practice says, "Mr Sers might as well talk of the opportunities of studying children which we waste in not turning ourselves into children's nurses." I answer that there is no analogy whatever between a general practitioner who requires obstetric knowledge and one who does not require a knowledge of nursing children. In conclusion, Sirs, I must remind Mr. Humphreys that I have had the most ample opportunities, both in town and country places, of judging this question, and that I am not afraid to speak upon it with candour, and, viewing it in its purely social aspect, I claim, if I may be pardoned for so saying, to speak with some authority.

I am, Sirs, yours faithfully,

CLEMENT H. SERS.

Queen's-road, Peckham, S.E., Sept. 18th, 1893.

To the Editors of THE LANCET.

SIRS,—Now that the subject of the registration of midwives is under discussion it will be well if those most likely to be affected by the change give their version of what appear to be some of the results that will accrue, judging from what already occur.

I was called a few mornings ago to see a newly born child. A midwife had been engaged to attend the mother, but through some delay she did not arrive until some time after the child was born. The mother shortly before her delivery declared that she wished to go to stool, for which purpose a pail was provided; whilst straining to pass the motion (?) the child was born, head first, into the pail. The mother cried out and a neighbour in the house ran in, saw what had happened, and rescued the half-suffocated infant from its dangerous position. Soon afterwards she sent for me, as the child's breathing was rapid and difficult. I administered an emetic, which gave great relief to the breathing. Before long the midwife arrived and on being told of what had occurred assured the mother that, although she had done quite right in sending for me, yet, even if she had not sent, it would have been all right still, as *she* was a *doctor* and could have given the certificate if necessary. I have heard nothing more of the case, and, for aught that I know to the contrary, the certificate may have been supplied and accepted by now.

If this is the way in which a mere L.O.S. acts now (and I do not think that it is an isolated case), what are we to expect if midwives obtain official recognition at the hands of the General Medical Council? I enclose a Kensington paper containing the account of an inquest, which forcibly illustrates my point. Our fears that the new order of midwives will assume to themselves the style and title of medical practitioners do not seem to be so groundless as some of the more expensive and fashionable members of the profession would have us think. A medical man in Mayfair or Belgravia or a specialist cannot know much about the requirements of general practice in a poor neighbourhood like some of the districts of Fulham and North Kensington. Some of these midwives sell draughts to their patients, charging sixpence each for them.

I am, Sirs, yours faithfully,

M. A. SALTMARSHE, L.S.A. LOND.

West Kensington, Sept. 16th, 1893.

BLOODLETTING.

To the Editors of THE LANCET.

SIRS,—Some years ago you were kind enough to give a place in THE LANCET to a communication from me on the subject of bloodletting. I then made an attempt to show that the moderate and reasonable abstraction of blood, in acute and properly selected cases, was not deserving of the nearly universal condemnation insisted upon in the teaching and practice of the last forty years. This attempt I supported by adducing cases reported from the Edinburgh Royal Infirmary and from the published lectures of Mr. (now Sir) Rutherford Alcock. The cases quoted were of great gravity, and the successful issue, in most instances, justified the very free abstraction of blood which was had recourse to. To those, like myself, who have been engaged in practice for nearly sixty years, and who have witnessed the beneficial effects of venesection before the little operation became unfashionable, it is satisfactory to be able to recognise the fact that this fashion, like many others, is again in process of coming to the front. A letter in a recent issue of THE LANCET records the good results obtained from venesection in certain cases in the practice of the writer. To those like your present correspondent who have performed phlebotomy hundreds of times it does appear strange and even marvellous to learn that an operation—the first that every apprentice was taught to perform and which he was in the habit of performing almost daily and long before he was the proud possessor of a medical diploma—should be presented to us to-day as one of equal magnitude with deligation of the brachial or femoral artery in its continuity. It does seem strange to one who obtained his diploma in 1836 to be obliged to realise that there are gentlemen in practice who have never performed the operation in question and that there are many more who have never seen it performed. This unfortunate condition of matters, no doubt, must sometimes stand in the way even when the necessity of venesection is apparent. If the operation is performed as it was in former days it will almost invariably be experienced that blood will flow *pleno rivo*.

I am, Sirs, yours faithfully,

Ferdoun, N.B., Sept. 18th. DAVID JOHNSTON, M.D.

THE HÆMATOZOA OF MALARIA

To the Editors of THE LANCET.

SIRS,—The following letter from Professor Laveran of Paris finally settles the disputed question of the existence of the malarial hæmatozoa in Mauritius. When I announced in THE LANCET of Aug. 20th, 1890, the discovery I had made (during my visit to that island) of these parasites in the blood of malarial patients in the Civil Hospitals the accuracy of my statement was attacked by certain critics out there, who maintained "that Laveran's hæmatozoa did not exist in Mauritius, for no one except myself had ever seen them," and yet more than half of my slides had revealed their presence. The question was referred to Professor Laveran, who, after waiting for two years, has at last received a few specimens from Mauritius whereupon to base his verdict.

I am, Sirs, yours faithfully,

D. E. ANDERSON, M.D. Paris, M.B., B.Sc. LOND.

Paris, Sept. 3rd, 1893.

MON CHER CONFRÈRE,—Je vous remercie de votre envoi; parmi les préparations de sang desséché que vous m'avez adressées il y en a beaucoup qui sont mauvaises et qui ne peuvent pas être utilisées pour la recherche de l'hématozoon, mais quelques-unes ont été recueillies dans des conditions assez satisfaisantes; j'ai constaté dans plusieurs de ces dernières préparations la présence de l'hématozoon du paludisme (corps sphériques pigmentés et corps en croissant). Il n'est donc pas douteur que ce parasite existe à l'île Maurice et qu'il se présente là sous les mêmes aspects que dans les autres contrées palustres.

Votre tout dévoué,

Paris, 7 Août, 1893. A. LAVERAN.

PROFESSOR BURDON SANDERSON ON PHYSIOLOGY AND PSYCHOLOGY.

To the Editors of THE LANCET.

SIRS,—In his address to the British Association Professor Burdon Sanderson briefly referred to the relation between physiology and psychology. Considering that the brain is

regarded as the organ of mind it is no wonder that a professor of physiology should seek to determine their relations, and it is with great expectation that one turns for information to so renowned an authority as Professor Burdon Sanderson. In this case one is rather disappointed. He admits that "mind must be regarded as one of the 'specific energies' of the organism and should on that ground be included in the subject-matter of physiology." Quite so. But how does this positive and emphatic statement agree with the hesitating language employed in the next sentence? "As, however, our science, like other sciences, is limited not merely by its subject but also by its method, it actually takes in only so much of psychology as is experimental." Accordingly, he regards experimental psychology as having "no technical application"; and in future it will only exercise "a helpful influence on the science of life." But if the brain is the organ of mind, and if every activity of the mind has its correlative in the brain, it is surely incumbent on the physiologist to take note of all these activities, whether obtained by experimental psychology or by "introspection." To fail in this respect is surely as great a mistake as for a physiologist to overlook a function of any other bodily organ.

This will be more clearly seen if looked at from a pathological point of view. In mental disease it is often necessary to decide the question of sanity or insanity. In such a case, to say that the brain is diseased does not throw much light on the decision, especially so long as the possessor of that brain refuses to subject his cerebral organ to an anatomical examination. The decision rests on psychological grounds and involves questions of such momentous importance as the responsibility or irresponsibility of the party concerned. In Professor Burdon Sanderson's estimation psychology is regarded as of secondary importance and he is quite prepared to fling the subject into the hands of the philosophical psychologist.

But Professor Burdon Sanderson is not the only physiologist who treats disparagingly of psychology. In his address to the British Association on Animal Automatism ("Science and Culture," p. 236) Professor Huxley regards consciousness as a merely superfluous attendant on molecular changes in the brain. "Is there any evidence," he asks, "that these states of consciousness may conversely cause those molecular changes which give rise to motion? I see no such evidence. The frog walks, hops, swims and goes through his gymnastic performances quite as well without consciousness, and consequently without volition, as with it." The same argument he regards as applicable to man, and consciousness in him, as in the brute creation, is as incapable of modifying the working of the bodily mechanism "as the steam whistle which accompanies the work of a locomotive engine is without influence upon its machinery." Had Professor Huxley been engaged for some time as medical witness in criminal trials he would certainly find that the consciousness which preceded the mechanical action of a limb in inflicting a fatal wound was far from being regarded as a useless appendage. Instead of deeming it superfluous, he would find that competent medical jurists would regard it as the crucial element in the case, enabling them either to acquit or to incriminate a party suspected of a very serious crime.

It is certainly curious to find that two physiologists of such undoubted pre-eminence treat psychology so superciliously. In striking contrast to many enthusiastic students, who would claim for science the whole domain of knowledge, Professor Burdon Sanderson contemptuously flings psychology into the hands of the philosophical psychologist, whilst Professor Huxley dispenses with the subject altogether and reduces man to a "conscious automaton."

I am, Sirs, yours truly,

Sept. 18th, 1893. FRANC AUDER.

BUST OF THE LATE PROFESSOR JOHN MARSHALL.

To the Editors of THE LANCET.

SIRS,—Will you allow us to make known to the subscribers to the above memorial that the bust which is to be presented to the Museum of University College will be handed over to the council of that institution on the occasion of the introductory lecture by Mr. Bilton Pollard at the commencement of the Session on Oct. 2nd, 1893.

We are, Sirs, yours faithfully,

THOMAS BARLOW.
VICTOR HORSLEY.

"THE REPORT OF THE SELECT COMMITTEE ON DEATH CERTIFICATION."

To the Editors of THE LANCET.

SIRS,—There is one peculiarity about the report of the Select Committee on Death Certification, and that is that not a word is said on the subject of the remuneration of the medical man, from whom the information must be derived. No doubt it is very desirable that the law relating to death certificates should be amended and that the public should be protected in every way; but surely, as the public requires this service, is it asking too much that in a wealthy country like this the public should pay for it? Does the medical profession not already give sufficient gratuitous service? It is not for me to suggest what the fee should be, but I think that if the matter were fairly presented to Parliament, or whoever the proper authority may be, through some representative body we should be likely to obtain some recognition of our services.—I am, Sirs, yours faithfully,

Sept. 19th, 1893. L. H. R.

*** Our correspondent has evidently overlooked the paragraph in the report which deals with the subject of remuneration for death certificates. In our analysis of the report of the Select Committee on Death Certification in THE LANCET of Sept. 9th, 1893, page 650, a paragraph will be found which sets forth the views of the Committee on this question.—ED. L.

To the Editors of THE LANCET.

SIRS,—As a rural medical officer of health I hope that THE LANCET will advocate that the appointment and duties of the medical certifier of deaths as recommended by the Select Committee on Death Certification should be attached to those of the medical officer of health, especially in rural districts. The medical officer of health is the one who is suited for the appointment, moving about as he does over his district, and it is folly to think that present boards of guardians, who are the sanitary authorities, would give a man anything like a sufficient salary to enable him to devote all his time to the duties of the two offices. Moreover, medical officers of health are grossly underpaid, especially in our country, for the work, and a new office with a fair emolument would enable a man to live.

I am, Sirs, yours truly,

Sept. 17th, 1893. A M.O.H.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Health of Newcastle and Gateshead.

THERE is an unusual amount of diarrhœa even for the season in both Newcastle and Gateshead, adults and elderly people having been severely attacked and prostrated, as well as infants. The sanitary authorities should see in time that their towns are properly divided for the purposes of medical supervision, and that facilities are provided for the poor to obtain medical aid and medicines without delay. I remember how Tyneside towns have suffered before from epidemic cholera, and that the forerunner on each occasion has been diarrhœa. There has been a marked deterioration in the public health in both towns for the past few weeks. In Gateshead diphtheria has been prevalent and fatal cases have occurred from the same disease in Newcastle. Gateshead, I believe, has no notification clause in operation, and so it is impossible to know what amount of disease there is, or in which district it exists. In Newcastle, too, the returns of zymotic disease might be published more frequently with advantage, and a map might be exhibited at the health office so that the medical profession and the public might see at once what diseases of this nature were prevalent and where. At present the worst place in this city to get information about its health is at the health office of the Corporation. It has not yet been shown that the water-supply has had any influence upon the state of health in Newcastle and Gateshead, but this will become a great factor if the present drought continues.

Health of Sunderland and District.

In Sunderland and district there is even a worse state of health than on the Tyne. Diarrhœa, the medical officer of health (Mr. Wood) says, continues to be fatally prevalent, there having been thirty-nine deaths from this cause in the

past two weeks. Infantile mortality has also reached an excessive stage; whereas last year it was 159 per 1000 children born during the corresponding fortnight it was 382 per 1000 children this year. The cases of infectious diseases notified accumulated at a rapid rate, there being no fewer than 173 against 95 in the previous two weeks. Of these 105 were typhoid fever, 47 scarlet fever, 14 continued fever, 6 typhus fever and 1 puerperal fever. There are now, the medical officer says, 78 cases of fever under treatment at the two hospitals in the borough and 173 other cases notified as under treatment in the town. The medical officer of health for the Houghton-le-Spring district (Mr. Park) has reported to the authorities the prevalence of typhoid fever in the union, forty cases having been notified from Aug. 14th up to the present time. Mr. Park attributes the cause of the disease to bad scavenging, resulting in choked drains, and to the town manure being allowed to remain too long deposited, with consequent contamination of the drinking water.

Fatal Case of Cholera at South Shields.

On Friday last a South Shields man, a watch-maker by trade, died with choleraic symptoms after four days' illness. Upon his symptoms becoming grave he was removed to the infectious diseases hospital, where he died and was buried without delay. It is stated that he ate some foreign fruit the day preceding his fatal illness. Dr. George Murray made a bacteriological examination and pronounced the case to be one of undoubted Asiatic cholera.

Opening of the Stockton New Park.

It is announced that the very fine public park presented to Stockton by the mayor, Major Ropner, is to be opened by the Duke and Duchess of York on Oct. 4th.

The Hope Bequest to Langholm.

It is said that the trustees of this munificent bequest of the late Mr. Hope of New York to his native town on the borders, have received the balance of his estate—upwards of £100,000—wherewith, in terms of his will, to build and endow a hospital at Langholm.

Presentation to a Medical Man.

Dr. Marinus Jones, who has left Marske-by-the-Sea after a residence of six years, was presented with an address and silver salver from the Marske Branch of the Cleveland Miners' Association before his departure, in recognition of his kindness to all, and of his services in instructing the branch of the St. John Ambulance Association.

Newcastle-on-Tyne, Sept. 20th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Public Health of Aberdeen.

A STATEMENT of the expenditure of the Public Health Department of the Aberdeen Town Council during the past twelve months was recently submitted to the Public Health Committee. It was shown that there was a debit balance of £1150 on the year, being accounted for, to a great extent, by the epidemics of whooping-cough and measles. From an estimate of the expenditure for the ensuing year it appeared that, with the assessment at 3*d.* per pound, there will be a deficit of £1450. The rate cannot, however, be raised above 3*d.* per pound until next May. In Glasgow the rate is 5*d.*, whilst in Leith it is 10*d.* At the same meeting it was intimated that a case of small-pox had been reported in the west-end of Aberdeen. During the month of August Dr. Matthew Hay reports that the death-rate in Aberdeen was 17·27 per 1000 per annum, being lower than in the preceding month (19 per 1000), but higher than in August, 1892, when it was 15·84 per 1000. The mean age of all persons who died during the month was 37·2 years, as against 28·8 years in the corresponding month last year and 34·3 years in the preceding month of this year. The following is a list of cases which were notified to the medical officer of health last week: small-pox, 1; measles, 2; scarlet fever, 2; diphtheria, 5; typhoid fever, 3; whooping-cough, 8; erysipelas, 14; and choleraic diarrhœa, 3: total cases, 38.

Small-pox in Aberdeen.

In the Aberdeen Sheriff Court on Saturday last a petition was presented by the local authority of the burgh praying for a warrant to remove a woman who is suffering from small-pox from her residence to the City Fever Hospital. The evidence showed that the parents of the patient refused to carry into effect the recommendations of the Public Health Committee and the Sanitary Office, and that the petition was therefore presented for the compulsory removal of the patient. Objections were lodged on behalf of the parents, and the sheriff refused the application without expenses.

Hospital Accommodation in Paisley.

Attention is directed in the public press to a serious deficiency of accommodation for patients suffering from fever in Paisley. It seems, from a letter which has been published by Dr. F. Shearar, that this want of accommodation has led to a loss of control of the outbreak of enteric fever which prevails in Paisley at the present time. There have been 270 cases, with 27 deaths, and the disease continues to spread. "Meanwhile," says Dr. Shearar, "we seem to be losing hold, too, of scarlet fever, and laying the foundation of an epidemic of that disease as well; whilst if cholera or small-pox were to appear in our midst—a supposition not in the least improbable—we should have been consulting where to put them when the patients were requiring burial." Dr. Shearar then blames the local authority for not taking steps a year ago, when the question was before them, to erect a fever hospital which would have been adequate for the growing wants of the town. He states that there are now in the fever hospital 29 cases of scarlet fever where there is room only for 22, and 62 cases of enteric fever where there is accommodation only for 51. Gockston Hospital is similarly overcrowded, with the natural result that both there and in the fever hospital there is a nurse suffering from enteric fever. These are very serious allegations and Dr. Shearar is not one who is likely to have made them without good ground. They demand the immediate attention of the Paisley local authority, particularly as their town has a bad record from a health point of view.

Sept. 19th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Lunatic Asylums in Ireland.

As it has been shown that there has been a steady increase year by year in the number of lunatics under care, it necessarily follows that in consequence the district asylums have at the same time become more and more overcrowded and that the accommodation has also become quite inadequate to supply the wants of the insane population. It is, however, satisfactory to find that the governors of almost every district asylum are fully aware of the necessity of meeting the requirements of their respective districts, and in a large number of instances they have already sanctioned the necessary expenditure for alterations and additions, so that it is hoped that within a reasonable time the accomodation will be rendered in some degree better adapted to meet the immediate wants of the insane poor. As regards the Richmond Asylum the number of inmates is now nearly 1500, whereas the institution has accommodation for about 1100. It follows, as might have been expected, that the health of the inmates during the year has not been satisfactory, and indeed the death-rate, as compared with other district asylums, is high, amounting to 12·5 per cent., the average death-rate in similar institutions being 8·3 per cent. Constant outbreaks of zymotic disease have occurred. Dysentery for several years has been almost endemic; 73 cases with 14 deaths occurred last year, and in three of the cases secondary abscesses were found in the liver. The only adequate remedy would be to erect a second asylum, and this the governors have determined to accomplish. Years must elapse before this building will be completed, and in order to avert in some degree the danger which arises from the present condition of the wards the governors have determined to erect temporary day-rooms on the male and female sides, together with a detached hospital for infectious diseases. Of the 12,133 patients in the various district asylums 995 died, or an average of 8·3 on the daily number resident. Of these deaths, 395 were due to phthisis and other diseases of the lungs, 61 to dysentery and diarrhœa, 72 to epilepsy and convulsions, and 44 to apoplexy and paralysis. As regards the probable causes of insanity in those who were admitted to district asylums during last year 497 cases were attributed to moral

causes and 2684 to physical causes. Amongst the physical causes 663 cases were due to hereditary influences, 265 had had previous attacks, 175 were from bodily diseases and no less than 290 were due to intemperance. The average cost per head amounted to £23 0*s.* 8*d.* and, deducting the proportion borne by casual receipts, was £22 5*s.*

Death from Anthrax.

Mr. Thomas Lett, a gentleman farmer, of Tinnacross, co. Wexford, died last week from malignant anthrax, which he contracted from animals on his lands. He lost several animals and opened one to find what organs were affected, and very foolishly removed the hide from it with his own hands. He had a slight scratch on his left hand at the time, and shortly afterwards the hand and arm were considerably swollen, and a lump formed under the clavicle of the affected side. It is stated—with what accuracy I cannot determine—that this is the first fatal case of the kind which has been recorded in Ireland, and it also said that elaborate preparations have been taken by the authorities to cope with the outbreak.

Appointment of Medical Officer to Carrickmore Dispensary.

At a special meeting of the Omagh Dispensary Committee, held on the 16th inst., Mr. Hunter (Blacklion, Enniskillen), was elected medical officer for Carrickmore Dispensary.

Outbreak of Anthrax in County Down.

At a meeting of the Newtownards board of guardians, held on Saturday, Sept. 16th, Mr. Bailie, veterinary inspector, reported that an outbreak of anthrax had occurred at Moneyrea, Comber, on the 11th inst. Four cows had died in two farms which are adjoining. The hides of the slaughtered animals (two of which were sold in Belfast) have been discovered by the police, and both these and the bodies of the animals have been destroyed. Notices have wisely been inserted in the Belfast papers calling attention to the outbreak and making provisions for stamping it out and for preventing its extension to human beings.

The Samaritan Hospital, Belfast.

At a meeting of the committee held on Sept. 18th some amended rules, chiefly with the object of raising money, were passed. It was reported that the attendance of extern patients had been about the same as last year. Seventy-two intern patients had been treated, the majority being surgical cases, and thirty-seven operations had been performed.

The Mater Infirmorum Hospital.

A special effort is now being made for the erection of a more extensive hospital than the present Mater Infirmorum. The frontage will be 220 ft. long, and it is intended to erect a very fine building, the cost being estimated at from £25,000 to £30,000. In the new hospital, whilst all suffering people will be eligible for admission, arrangements will be made for the reception of paying patients. A most healthy site has been secured for the promised edifice. The new Mater Infirmorum Hospital will contribute materially to meet the present want of hospital accommodation in Belfast.

Sept. 19th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Life of the Cholera Bacillus.

PROFESSOR UFFELMANN[1] has been making experiments to ascertain the conditions under which the life of the cholera bacillus may possibly be prolonged, and an explanation found for the recurrence of cholera in places where for weeks or even months no case had occurred and no fresh importation could be traced. The majority of authorities have hitherto been of opinion that the cholera bacillus—not only when dried, but also when in water, sewage, fæces or food—is rapidly destroyed, disappearing at latest after a few days. This destruction of cholera bacilli is doubtless due partly to the action of other micro-organisms, partly to the fact that the cholera bacillus does not develop spores, and partly to its inability to resist being dried. The presence of slimy matter hindering drying has been found (Berkholtz) to prolong the life of the bacillus. Professor Uffelmann finds that a temperature approaching the ice-point, whilst hindering the growth of micro-organisms which would compete successfully with the cholera bacillus, is not sufficient to destroy the latter. His conclusions are: the presence of a medium which does not readily dry and a low temperature are conditions under which the life of the cholera bacillus may be prolonged; but a low temperature (not below 32° F.) is a much more efficient preservative than slime.

1. The formation of a slimy covering enables the cholera bacillus to survive at the longest six days.

2. At a temperature of about + 6°C. (42 8° F.) the cholera bacillus lives—

In river water at Rostock at least	20	days.
,, waterworks water at Rostock at least ...	23	,,
,, drain water ,, ,, ,, ...	7	,,
,, fæces as long as	38	,,
,, mixture of fæces and urine from	7 to 10	,,
,, garden mould at least	12	,,

3. At a temperature between 0° and + 1°C. (32°-33·8° F.) the cholera bacillus lives—

In a mixture of fæces and urine as long as ...	12	days.
,, drain water ,, ...	12	,,
,, garden mould ,, ...	16	,,

The Sewage of Berlin.

It has just been officially notified that since April 10th the water from the sewage farms of the city of Berlin has been regularly examined and that in seventy samples of water no traces of the germs either of typhoid fever or cholera have been found. No case of typhoid fever has occurred in recent months amongst those employed on the farms. This is a satisfactory proof of the very excellent way in which these farms are managed.

Ice.

The public has again been officially warned that ice, even when to all appearance pure, has been found to contain germs capable of developing disease and should therefore not be allowed to come in contact with food or drink. It is added that probably in many cases illness which has been attributed to taking iced drinks was in fact due to the presence of disease germs, and not, as has been often thought, to the cold.

Fermentation and Infectious Diseases.

Professor Hueppe read a very interesting paper at Nuremberg on the Causes of Fermentation and Infectious Diseases.

Sept. 17th.

[1] Berliner Klinische Wochenschrift, No. 38.

Obituary.

SURGEON-MAJOR THOMAS HEAZLE PARKE,

L.R.C.P. IREL., Hon. D.C.L. DURH., Hon. F.R.C.S. IREL. &c.

THOMAS HEAZLE PARKE, whose early and lamented death was noticed in the last issue of THE LANCET, was the second son of Mr. William Parke, J.P., of Clogher House, Kilmore, county Roscommon. He was born on Nov. 27th, 1857, so that when he died he was not quite thirty-six years of age. His life was long enough, however, for him to have won a reputation for heroism under circumstances more trying than those which obtain at the cannon's mouth or in the excitement of conflict; and, better still, he lived long enough to have earned the undying affection of those who knew him and of many who had not that honour. Surgeon-Major Parke was educated in Dublin and became a Licentiate of the Royal College of Surgeons in Ireland in 1878. In the following year he was licensed by the Royal College of Physicians of Ireland, joined the Army Medical Department in 1880 and was gazetted surgeon-captain in February, 1881. These necessary preliminaries over, and being eminently a man of action, he was fortunate enough to find himself in Egypt in 1882 on the eve of a stirring period in the history of that most ancient of historical lands—which "heard the legions thunder past and fell asleep again." There was, however, little opportunity for its slumbering in 1882. Surgeon-Major Parke first saw war service there at that date; and in 1884–85 he accompanied the expedition sent to rescue Gordon and subsequently took part in all the engagements which occurred in crossing the Bayuda desert and at Abu Klea. For Abu Klea, Gubat and Matemmeh he received the medal with two clasps and the Khedivial Star.

In Egypt also he encountered a more deadly enemy than the Soudanese. He was the principal medical officer at

Helouan, near Cairo, during the cholera epidemic, at a time when, in Cairo itself, hundreds of people died daily of that pestilence. In a letter to a friend he sums up modestly the more striking points in his career. He says, "I had seen war service in Egypt in 1882 and in the Soudan for the relief of Gordon in 1884–85, and was through all the engagements across the Bayuda desert, including Abu Klea, where I was in charge of the Naval Brigade when out of five of us officers two were killed and two wounded, I being the only one who was not hit. I served through the cholera epidemic in Egypt as principal medical officer at Helouan, near Cairo, when in Cairo itself 600 people died daily." But the great opportunity of Surgeon-Major Parke's life was yet to come. The heroic efforts of his countrymen to reach and save Gordon failed—a failure which resulted in having, nevertheless, given us the example of the devoted and chivalric life of the Christian soldier who has been well called "the last of the Saints." Surgeon-Major Parke volunteered to accompany the intrepid band which, under Mr. Stanley's guidance, traversed the apparently impenetrable forests of Darkest Africa, dogged by disease and death, and triumphantly accomplished its object. The part which Surgeon-Major Parke bore in that memorable journey is already well known, but we deem ourselves fortunate in being able to present anew some particulars of the expedition and of his services as also of his personal qualities from the pen of Mr. H. M. Stanley, who has had ample means of gauging his character under circumstances which put it to the severest test. Another member of the expedition, Lieutenant Stairs, R.E.—who too, alas, succumbed to the deadly climate of Africa—has spoken equally highly of his comrade in the columns of THE LANCET. And well might both he and the leader of the expedition speak well of Surgeon-Major Parke, for both owed their lives to him on that harassing journey. It requires little imagination to invest with the halo of romance the multitude of his good deeds—here treating repulsive sores, there sucking the venom from a poisoned arrow wound, and, again, laying aside the *rôle* of the healer in order to lead and command with efficiency his allies against the onslaught of human enemies in the trackless wilds. Before leaving Egypt to join the Emin Relief Expedition Surgeon-Major Parke was entertained at a farewell dinner in Cairo by friends who gathered to wish him God-speed and who had the happiness to welcome him back when he returned to civilisation. On the latter occasion, after an eloquent speech by Sir Charles Cookson, K.C.M.G., who in proposing his health said that Surgeon-Major Parke's experience "surpassed the wildest imaginings of romancers," he gave an interesting account of the journey and of the important geographical discoveries in which the expedition had resulted. It should not be forgotten that Emin Pasha himself after his accident at Bagamoyo in all probability owed his life to Parke's care, for he remained with his patient under circumstances in which many men would have considered themselves justified in retiring to a more salubrious climate without delay. Detained further in Cairo by hospital duty Surgeon-Major Parke did not return to England until the beginning of May, 1890. When he did so the profession in this country was not slow to do him honour. The officers of the Army Medical Service, the Royal College of Surgeons in Ireland and the profession in general strove to excel each other in the spontaneity of their hospitality. The Editors of THE LANCET entertained Surgeon-Major Parke at THE LANCET Office on the afternoon of June 6th, 1887, and presented him in the presence of the editorial staff with a large silver salver as a mark of their recognition of his distinguished services. On the evening of the same day he was entertained at a banquet by some of the most distinguished medical men in the kingdom under the presidency of Sir Andrew Clark. On this occasion the chairman, Mr. Jonathan Hutchinson, and Sir James Paget spoke in eloquent terms of their distinguished *confrère*. He also received the gold medal of the British Medical Association, the honorary D.C.L. of Durham University, the Order of the Medjidie, the Brilliant Star of Zanzibar, the medals of the Royal Geographical Societies of London and Antwerp, and the honorary Fellowship of the former of these societies, and was chosen an honorary Associate of the Order of St. John of Jerusalem. After his return to London he was temporarily attached to the 2nd Life Guards, and later, passing the necessary professional examinations for promotion, became Surgeon-Major on completing his twelve years' service with the forces. Full as his all-too-short life had thus been of active work, his pen had not been idle. He was the author of the "Report to the War Office on the Cholera Outbreak in Egypt" (1883), of "Experiences in Equatorial Africa" (1891) and of "Evidence before the Vaccination Commission" (1890). He likewise contributed articles on professional subjects to various journals, amongst others one upon "The Arrow Poison of the Pigmies," and last, but not least, he wrote a "Guide to Health in Africa," which was very favourably reviewed in the columns of THE LANCET. Unlike the compilations of some voluminous authors, Surgeon-Major Parke's work in this sphere was gained at the cost of privations and illness which left but too lasting an effect upon him. On the occasion of his visit to Dublin after his arrival in this country, it was noticed that he was occasionally the subject of attacks of syncope due in all probability to the hardships he had undergone. From accounts we have received of his fatal illness we conclude that this was attributable to the enfeeblement from the same cause, and from which he had never completely recovered. In one of his finely strung organisation, however, some influence may, we think, be justly attributed to a mental depression arising from a sense of unmerited neglect at the hands of the military authorities. In August, 1890, we felt called upon to urge his claims to a promotion which had been very promptly granted to his well-deserving comrade-in-arms, Lieutenant Stairs. It has been stated that Surgeon-Major Parke was not engaged in Government service in Africa; but neither was Lieutenant Stairs. In all other respects—and we say it in no detracting spirit to his brave companion, who would have been the first to agree with us—Surgeon-Major Parke's claims were even better than his, for he had been longer in the service, had, unlike Stairs, been on trying war service, and had, as we have stated, directed the measures taken against cholera at Helouan. Some honorary distinction might surely have been conferred upon this officer, and we cannot understand why his claims to some recognition of the kind were not publicly acknowledged in this way at any rate,—whereas within our own knowledge he did not even receive a letter of thanks. Lieutenant Stairs was also fortunate enough to return to England when the enthusiasm concerning the results of Stanley's expedition was at fever-heat. Surgeon-Major Parke, detained on duty in Egypt, did not return so soon. As a British officer he felt the neglect keenly and his depressed state of health caused him to give an undue importance to it. The lustre of his name, however, will not be dimmed. He has received a reward greater and more lasting than a mere titular distinction in the esteem and gratitude of his fellow-countrymen. Like Gordon's, his memory will be endeared to the English people not because he was a soldier but because

> "His life was gentle, and the elements
> So mixed in him that Nature might stand up
> And say to all the world, This was a MAN.'

Our Dublin correspondent sends the following account of the funeral of Surgeon-Major Parke:—In accordance with a generally expressed wish the obsequies of the deceased officer partook of a public character. Previously to the remains being placed in the coffin a post-mortem examination was held, which showed that death was caused by an affection of the heart, whether valvular or otherwise has not been stated. The remains were taken by steamer to Greenock and then transferred to the steamer which arrived in Dublin on Friday morning. The funeral *cortège* left the North-wall for the Broadstone railway station at two o'clock and a large number, including many medical men, followed the remains to the station, the Lord Mayor of Dublin sent his official carriage and was represented by his son. Every army medical officer in Dublin who could possibly attend was present. Two hundred men of the Royal Sussex Regiment, who formed the firing party, headed the funeral *cortège*, and the coffin being carried from the vessel by men of the Army Medical Corps and placed on the gun-carriage, the soldiers saluted and every ship ran a flag half-mast high. The military having reversed arms moved on, the band playing a funeral march. The gun-carriage, beside the coffin, contained the deceased officer's helmet, sword and belts, and was followed by his charger with boots and spurs reversed. Amongst the officers present was Surgeon-Major-General Collis, Principal Medical Officer in Ireland. As the funeral procession proceeded it collected hundreds who followed

THE LATE SURGEON-MAJOR PARKE, A.M.S.

From a Photograph by Walery, Ltd., Regent-street, W.

in its wake. The coffin was then placed in a special waggon attached to the train and was nearly hidden by the large number of wreaths which covered it. On Saturday last the remains were interred at Drumsna, county Leitrim. The Rev. James Carey, rector, delivered a discourse at the grave and said that all those who had been privileged with the acquaintance of Surgeon-Major Parke, all those who knew or read of his noble dignity, his personal self-sacrifice when he could be of any use to others, even though—as occurred on more than one occasion—he went into the jaws of death in so doing, his untarnished honour and unflinching rectitude under every possible circumstance, must feel convinced that to generations yet unborn his name would be handed down when the names of those in other spheres, which might now be looked upon as greater, would have dwindled into obscurity and forgetfulness. Such an example should inspire them to better and nobler things, and should make them follow, unworthy though they were, in his footsteps, just as their departed friend humbly and zealously followed in the steps of Him whose servant and whose soldier he was. Several Freemasons of the Grand Lodge of North Connaught were present in the regalia of the order.

His brother officers have written that "during his stay at Netley he made many friends, and all who came in contact with him were charmed with his kindly and genial disposition, quiet and unobtrusive manner. No one who had such a record could possibly be more unassuming than he was. He was a great favourite with his brother officers at Netley and with every one connected with the place. The news of his sudden death came as a severe shock to all of us and expressions of deep regret were heard on all sides."

A TRIBUTE TO THE MEMORY OF SURGEON-MAJOR PARKE BY MR. STANLEY.

To the Editors of THE LANCET.

SIRS,—We have lost through a sudden and premature death our devoted friend Surgeon-Major Parke. It would be difficult to convey to others what I feel in regard to one who was the soul of good nature and was a treasure of the best qualities which are so conspicuous in a man universally beloved. Personally I am tempted to exclaim with De Tocqueville, "Depuis longtemps je ne m'attendris pas sur ceux qui meurent," and yet, and yet there is only *one* Parke. We should consider ourselves too fortunate altogether if within the brief span of life we could meet with another who exactly filled his place. For it means a great deal more than I need describe. Above all, it means finding one who is true to the core, a very honest and punctiliously honourable gentleman, one made up of sweet simplicity, tenderness and loving sympathy. He was made up of much more which won respect and admiration.

For his own sake I cannot regret his early departure—and for my own sake it is vain.

As a lady who knew him well puts it: "Those who are thus early taken away are surely fitted to be taken. It is best for him. He has escaped this life easily and at once. He had a look in his eyes as of one seeking something in the far distance. There was an unconscious inborn purity and tenderness about him—withal a manliness, a modesty and nobleness of soul that made him stand alone. He has left us in the land of the dying and he is gone to the land of the living. Such is my firm belief."

I will not attempt to write his biography. Where he was born, who were his parents, what country claimed him matter little to me. It is of the man as I found him that I care to speak.

From the first moment of our meeting I loved him. He was exceedingly handsome, well built and most soldierly. He appeared in perfect health, blooming as a rose and brilliant in new uniform, and there was such a charming unaffectedness and a genuine solicitude to accompany the expedition that I soon found myself seconding his wishes. However, I deferred accepting his gratuitous services until I could communicate with the Emin Relief Committee, who were at that time negotiating with a medical man who had already a considerable African experience. Fortunately, as I think now and believed then, the gentleman was demanding impossible pay and interpolating onerous conditions in his draft contract which the committee could not accept, and so acquainted me, so that I had no sooner reached Cairo (February, 1887) than I wired Parke that the office of physician and surgeon to the expedition was open for him. He came; and after exchanging some telegrams with the authorities he was engaged as an unpaid volunteer.

Between Cairo and Yambuya, on the edge of the Great Forest, Parke had few opportunities of distinguishing himself further than impressing on us all that he knew his business thoroughly and was most eligible as a companion. Soon after leaving Suez for Zanzibar he began to prove himself indefatigable and zealous. He overhauled the medical stores which had been furnished to us, free of all cost, by Messrs. Burroughs and Wellcome, pronounced them excellent, but made out a list of others which we ought to have, and also insisted on renewing the surgical instruments, which he said were indispensable on such an expedition as ours. A cable from Aden enabled us to receive these articles directly from London at the Cape, as we rounded it on our way to the Congo.

Soon after embarking our 800 men at Zanzibar I was pleased to discover that I had a stout ally in him in my faith in vaccination, and we were no sooner at sea than he commenced operating on the people. As many deaths had occurred on former voyages owing to overcrowding, insufficient clothing, and lack of intelligent superintendence over the deck passengers, it needed no more than a suggestion to the Doctor to cause him to be most active in his efforts to promote cleanliness, ventilation and comfort. The result was astonishing in the immunity from disease which the men enjoyed. On one voyage I know that an officer in charge of 260 men lost forty through small-pox, pneumonia and dysentery. Of about 800 we lost only two between Zanzibar and the Congo.

Europeans in Africa are not a whit more intelligent in the art of preserving health than so many blacks are when transferred from their own warm climate to a cold one. Parke, though he possessed only his experience on the Nile to guide him, appeared to divine this, and with great thoughtfulness drew up a list of rules, and impressed them on each officer with such wise reasons that his attention and personal efforts were stimulated to observe them. To this I attribute the fact that no officer suffered any serious illness between the sea and Yambuya. If we think of Captain Tuckey's expedition in 1816, losing twenty-one British officers of twenty-four in less than three months whilst on the Lower Congo, and of the many fatalities which occurred in our pioneering labours on that river between 1879 and 1884, we are bound to admit that the zeal, intelligence and continuous care of a medical officer contribute materially to the success of an African enterprise.

At Yambuya commenced the serious work of the Emin Expedition. Owing to various reasons we were unable to march in one body towards the Albert Nyanza. Five officers were left in charge of the rear column, and five, of whom Parke was one, set out with the advance column towards the relief of Emin Pasha. Your readers already know that all Parke's companions reached their homes safely, apparently none the worse for their unprecedented trials by starvation, privations and disease, and had it been possible for all to have marched with Parke, I feel sure that we should not have lost a single white man. Few as we were, however,—what with the 400 blacks who formed our portion of the expedition, and the frequency with which the whites were prostrated, Parke's responsibilities were well-nigh overwhelming. As the forest continued week after week, month after month, the same unbroken mass of trees and undergrowth, and we traversed the same ill-lit shades, subject to

the same unvarying troubles with swamps, creeks, mudflats and black oozy river deposits, the sick-list of each company increased each day and we all naturally looked to Parke as though the salvation of the poor victims depended upon him alone. True, each company captain did his utmost to alleviate suffering, and everyone's wits were exercised in contriving to minimise the impending loss of life—but Parke was the man we depended upon. He possessed the medical stores, the knowledge, the patience and the knack of dealing with the dreadful cases of which we were made aware each morning at muster. Who can tell how much encouragement we gained from him as he pronounced his opinions upon them? I fear many of us forgot that he was only mortal and subject to the same enfeebling influences of the vitiated atmosphere as ourselves, and that whether ill or well it was his duty to exert himself for the sake of other clamorous victims. He never once alluded to this, but every day bore the same calm, gentle bearing, questioning the sick with what I must call, to be literally just, an affectionate solicitude and the tenderness of something more than a friend. Besides this immense responsibility, which ought to have been shared at times by half-a-dozen medical men, he commanded his own company, like Stairs, or Nelson, or Jephson, and proved himself as efficient as any in the management of men, and yet on arriving at camp his medical duties each day began, each officer sending from ten to twenty sick men from his company to be inspected and treated by him. No language that I can use will describe the feeling of nausea that was provoked by the stench and the sight of fifty or sixty men who lost ounces of flesh each day from the most virulent ulcers; and looking at Parke one could not but wonder at the utter absence of any such feeling in his face. Himself depleted in body from excessive perspiration after a march through hot, moist jungles, starving on one green banana a day, half-naked from loss of clothing and the constant wear and tear of bush life, half fainting from the pernicious ague, which could only be suppressed by heroic doses of quinine, and yet presenting to each and all of us a face whereon one read naught but pleasantness and benevolence. Pursuing steadily day by day, throughout a period which has no equal in my life for downright utter and extreme misery, an even temper so admirable and beautiful for its sweetness and devotion, that I can think no human being, male or female, could excel it. It is here, in the possession of these natural gifts, this charming benignity, that I think Parke is great. Oh! at such a time had the ordinary human creature stood up and freed the pent-up feelings with a shout of blasphemy and explosive fury, we could not have remembered it as a sin against poor, weak, overpressed human nature; but never within my hearing or knowledge did I hear a murmur or a mean expression. That singular sweetness and tender anxiousness, having been noted by me so often when he sat in the midst of his patients unsuspecting, remain stamped on my mental image of Parke, and calling him now up to my mind I can see nothing else but that. The "Doctori," as the Zanzibaris called him, was to them a friend to whom they might expose their constant and ever-recurring ailments, for no one but one who was sincerely friendly could look as he did, or speak so soothingly and comfortingly.

After his short rest he would be seen striding across the camp, always erect, vigorous and soldierly, going from hut to hut, apparently thinking of nothing in the world but the condition of a patient he had just seen, and presently he would be bending down over another bad case with a new face and eyes which glowed with glad promise of recovery to him. The chronometer was not so faithful to Greenwich time as our doctor to his duties. No person reminded him of them; the warm interest he took in his noble profession and his own faithful, humble and upright heart were quite sufficient. The fate of the expedition—the prospects of getting food the next day, the whereabouts of Emin or anybody else—did not appear to have that importance for him as to how Juma or Ali or Sungoro was doing. The thoughts of impending starvation and calamitous forebodings had to yield to those which included his own immediate responsibilities.

Some men are great for a stupendous exertion at the trumpet call, and those spirits who are ready to peril life and limb in the performance of a daring task are not scarce, but the man who is such a hive of noble virtues—constant in lovableness as he whose loss this day so many deplore—is rare—most rare. And he was so modest, unobtrusive, quiet yet unshrinking before responsibility, firm in face of peril, a willing volunteer for any good work and yet not aggressive for distinction, that many, like myself, will say we know of none to fill the place Parke filled in our affections and esteem.

I am, Sirs, yours faithfully,

Ballywalter, Ireland, Sept. 18th, 1893. HENRY M. STANLEY.

JAMES HENRY WILLIAMSON, M.R.C.S. ENG., L.R.C.P. LOND.

THE sudden death of Mr. Williamson has caused quite a gloom in the district of Cheetham Hill and neighbourhood. At the time of his death he was house surgeon at the Clinical Hospital, Park-place, Cheetham. Early on Wednesday morning Sept. 13th, Mr. Williamson went round the wards as usual and then appeared to be in his ordinary health. He afterwards went to his room and about half-past nine he was found dead in bed. A post-mortem examination showed that suffocation was the cause of death. Mr. Williamson qualified only a year ago and in his student days was much beloved by all who knew him at Owens College and the Royal Infirmary. He was exceedingly kind and attentive to his patients and of late had been hardworked and was studying for a higher examination. It is exceedingly sad that so promising a practitioner should be carried off so suddenly. He was interred on Saturday, the 16th inst., at St. Luke's Church, Cheetham Hill. In addition to the parents and family of the deceased a large number of friends and members of the medical profession were present. There were also in attendance many out-patients of the hospital, and nurses and sisters. The coffin and hearse were covered with numerous wreaths.

WILLIAM RENDLE, F.R.C.S. ENG., L.S.A.

WE have to announce the death, on the 18th inst., at Treverbyn, Forest-hill, of Mr. William Rendle. Mr. Rendle was born at Millbrook, near Plymouth, on Feb. 18th, 1811, and was therefore in his eighty-third year. He became a Licentiate of the Society of Apothecaries in 1832 and a Member of the Royal College of Surgeons of England in 1838, proceeding to the Fellowship in 1873. He was for some time medical officer of health for St. George's, Southwark. He was the writer of a considerable number of works, mainly of an antiquarian and historical character, amongst which may be mentioned his "History of St. Thomas's Hospital, 1200–1724," which at the time of its appearance was the subject of favourable comment in the columns of THE LANCET. He also wrote various papers dealing with matters relating to questions of Public Health, Education and Hospital Reform.

Medical News.

NEW INFIRMARY AT GUISBOROUGH.—On Tuesday, Sept. 19th, the foundation-stone of a new infirmary for the Guisborough Workhouse was laid. The building will contain forty-two beds and will be so constructed that the male wards will be on one side and the female wards on the other, with accommodation for the nurses in the centre. Each ward is to be provided with bath-room, lavatory, water-closet and hospital sink. Externally the building will be faced with red brick. Iron stairs will be fixed at both ends of the building. Two spacious yards containing flower beds will also be provided. The total cost is estimated at £3235.

A MOVEMENT is on foot to erect a statue to the memory of the late John Hunter within the precincts of St. George's Hospital.

BEQUESTS.—Caroline Rose, Dowager Countess of Buchan, has left to Mrs. Garrett-Anderson, M.D., the sum of £300 for the endowment of a bed in the Hospital for Women, Marylebone-road, London.

PROPOSED FEVER HOSPITAL NEAR WOOLWICH.—On Tuesday last Dr. Downes and Major-General Crozier, R.E., held a public inquiry at Woolwich on behalf of the Local Government Board with regard to a proposal of the Metropolitan Asylums Board to purchase a site for a fever hospital in the adjoining parishes of Kidbrook and Charlton. The scheme was supported by Mr. Mann, of the Asylums Board; the medical officers of Woolwich (Professor W. R. Smith), Plumstead (Dr. S. Davies) and Charlton (Mr. Bernays); by the chairmen of the sanitary committees of Woolwich (Mr. R. Green) and Plumstead (Mr. G. Webb) and of the Woolwich board of health (Mr. T. R. Richardson), and by prominent members of other local bodies. Its opponents, who complained of insufficient notice, were the War Office, the Kent Waterworks, the Bexley-heath Railway, and the vicar, churchwardens and residents of Shooter's Hill, several of whom appeared in person. Mr. Mann urged the urgent need of hospital accommodation for the parishes in the vicinity of the site, which he said to be also a suitable one from a hygienic point of view. Mr. Jones for the railway company said that the presence of a fever hospital would be very prejudicial to their new station, and Colonel Rathbone, R.E., pointed out that the new hospital would by proximity interfere with the ventilation of the Herbert Hospital and would entail great risk of infection upon the Woolwich camp and the cadets. The inquiry lasted five hours and at the close the inspectors said that they would make a report to the Local Government Board.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Vaccination Bill.

THIS measure, in common with a number of others prepared and introduced by the Government in the course of the session, was formally withdrawn at the close of Monday's sitting of the House of Commons. It is not likely to be introduced again next session.

Compulsory Vaccination in Public Departments.

A return has been made to the House of Commons of the regulation making vaccination or revaccination compulsory upon persons in the service of the State.

In the Admiralty all the officers, men and boys in the Navy or the Marines are vaccinated or revaccinated upon entering; also if they have not again been vaccinated between such entrance and the age of eighteen they must be revaccinated at the earliest opportunity. The Royal Naval Reserve are subject to the same rules when in active employ. Candidates to become engineer students or apprentices in the victualling yards must produce certificates of revaccination before they can be considered eligible. The Hospital and Ordnance Store Departments and the Admiralty Department in London are exempt.

In the Customs the Lords of the Treasury have authorised the Commissioners to refuse employment to all persons who have not been successfully vaccinated within seven years and who refuse to submit to the process.

In the Irish Departments recruits for the Dublin Metropolitan Police and the Royal Irish Constabulary must present a certificate of having been properly revaccinated. In the Department of Irish National Education, the Marlborough-street Training College and the Albert Agricultural Institution both enact that candidates seeking for admission must either have had small-pox or been successfully vaccinated.

In the Post Office no candidate is admitted to employment who does not exhibit good marks of primary and secondary vaccination or good marks of vaccination, with definite evidence of having had small-pox.

In the Prisons Department there are no regulations with regard to local prisons, but in the Convict service all officers and their families must be vaccinated before entering upon their duties.

The War Office regulations are as follows: Every recruit, except those bearing distinct marks of small-pox, will be vaccinated at his depôt, unless he has a certificate to show that this been done in the Militia or subsequently to his enlistment. It is considered unnecessary to repeat the operation during the rest of his service. Only such Militia recruits as do not bear distinct evidence of small-pox or vaccination are vaccinated.

In the Inland Revenue Department, the Metropolitan Police and the Scotch Prisons Department, although vaccination of the servants is very often insisted upon, it is not an absolute condition of service.

The Isolation of Hospitals Bill.

This Bill has been put down for Committee on Nov. 2nd, and as the Bill is favourably looked upon by all parties, there is every prospect of its becoming law during the autumn session.

THE HOUSE OF COMMONS.

FRIDAY, SEPT. 15TH.

London Bakehouses.

On this subject Mr. Cremer put a question to Mr. H. Fowler, who, in reply, said the attention of the Local Government Board had not been drawn to the revelations made on the condition of bakehouses in various parts of London. It was the business of the local sanitary authorities to deal with the matter, and he had not received any communication in which complaint was made of default on the part of those authorities to attend to it. If there had been any neglect in that particular representations should have been made to the London County Council, who were empowered to take action with a view of enforcing the provisions of the law.

Cholera at Ashbourne.

In connexion with the outbreak of cholera at Ashbourne Mr. Hanbury asked if the Local Government Board had any knowledge of the condition of the town from a sanitary point of view.—Mr. H. Fowler said an inspector belonging to the Board had been despatched as soon as information of the outbreak had been received. His report went to show that the focus of the outbreak was a yard which was in a very dirty and dilapidated state, and which contained thirty-nine residents. There had been fifteen attacks and nine deaths. In one house alone there had been six cases, with three deaths. The sanitary condition of the place was most deplorable. The closet attached to it was used by tramps and others and the soil pipe leaked into the ground within two feet of the well. This had now been pumped out and filled in with quicklime. Since that and other measures had been adopted no fresh attack of the disease had been reported up to the present time. Ashbourne, according to Dr. Low's report, had had for some time an evil reputation for unhealthiness. Mr Fowler said he meant the state of Ashbourne to be a test case in order to ascertain what the powers of the Local Government Board really were, should the rural sanitary authorities decline—and he had no reason to suppose they would decline—to deal with the matter.

The Scotch Board of Supervision.

Sir John Trevelyan, replying to Mr. Beith, said the Scottish Board of Supervision were in frequent communication with local authorities as to water supply and sanitation and the reports of their officers were forwarded to headquarters. The Scottish ports had been repeatedly visited and reported on, and means had been provided for isolating cases of cholera. The existence of infectious disease in continental ports was carefully made known by the Board to local authorities. The question of the reorganisation of the Board was, said the right hon. gentleman, engaging his earnest attention, with the view of placing matters relating to public health on a satisfactory footing.

Scottish Prisons.

In Committee of Supply on the vote to complete the sum of £91,800 for Scottish prisons, Mr. W. Whitelaw said he must demand a Select Committee next session as a Departmental Committee was not sufficient. He understood that the prisons in Scotland were systematically overcrowded, and that the prison administration in Scotland was marked by extravagance; it was a guinea a head dearer than that in England. He moved to reduce the vote by £2200.—Mr. Hosier said the medical officers and chaplains in Scottish prisons were remunerated at a lower rate than those officials in English prisons.—Sir G. Trevelyan said he could not agree to the appointment of a select committee, as there was no sufficient ground for the demand. The vote was agreed to.

SATURDAY, SEPT 16TH.

British Universities and Colleges.

In Committee of Supply the vote to complete the sum of £33,000 for the British Universities and Colleges was agreed to after a rather lengthy discussion which chiefly turned on the objection that King's College was a strictly denominational institution and ought not to be subsidised by the State out of that vote.

Miscellaneous Matters in Supply.

On the vote to complete the sum of £39,177 for temporary commissions Sir C. Dilke entered a protest against the practice of Government granting Royal Commissions as being an easy way out of a difficulty.—Sir J. Gorst also protested against the poor taxpayers being made to pay half the expenses of the Opium Commission, which could be of no advantage to them.—Mr. Loder hoped that the Government would urge the Vaccination Commissioners to present an interim report without delay.—Mr. Fowler said any influence he might be able to exert in the way of expediting the issue of the vaccination report should be used.

MONDAY, SEPT. 18TH.

Anthrax.

On this subject the President of the Board of Agriculture, replying to a question put by Mr. Wason, who wished to know whether it would not be desirable for the bodies of animals affected with anthrax to be burned, said the process would necessarily be both costly and inconvenient. Accordingly the Board had advised that burial would be more expedient, as being attended with less danger. The microbe of the disease was, said the right hon. gentleman, aerobic and could not live without air, and he was informed that it had been demonstrated that it did not retain its vitality in a carcase which had been buried without having been cut.—The subject was also mooted on Tuesday by a question put by Mr. Thornton, who asked the President of the Local Government Board whether he could take any steps to guard against danger arising from infection in the process of horsehair manufacture.—Mr H. Fowler said his attention had been drawn to the case reported in the papers of death being caused in the way mentioned. The verdict

of the jury in the case referred to was that the fatal result was due to anthrax caused by the manipulation of unopened bales of horse-hair. At the inquest the suggestion was offered that some means of disinfection should be adopted before the bales were sent to England, but the right hon. gentleman had been advised that no reliance could be placed on such means of disinfection as would be likely to be practised at the ports of Eastern Europe, whence the hair was for the most part exported.

Indian Medical Service.

Two questions in connexion with this subject were addressed by Mr. A. C. Morton to the Under-Secretary of State for India. The first had reference to the periods at which the principal medical officers' inspections were made in India, and the second dealt with the point whether it would not be well that Netley should be included in the bearer and field hospital equipment, so that the medical officers of the Indian service might benefit by the instruction given there.—Mr. G. Russell said that the War Office regulations provided for half-yearly inspections at home and annual ones at foreign stations, and the authorities had seen no reason for departing from the system hitherto adopted so far as India was concerned. In reply to the second question Mr. Russell said that the existing system provided for the instruction of Indian medical officers at Netley in bearer and stretcher drill.

The Army Sanitary Committee.

Mr. Woodall said, in reply to questions addressed to him by Mr. A. C. Morton and Mr. Hanbury, that the Army Sanitary Committee had not visited Windsor, but when the drainage of that town had been revised the subject would be referred to that committee, the reports of which were not published. Their duties were confined to reports on sites and buildings.

TUESDAY, SEPT. 19TH.

Vaccination.

Mr. Hopwood asked the Parliamentary Secretary to the Local Government Board whether a pamphlet entitled "Facts Concerning Vaccination' &c. was, as stated on the title page, revised and issued by the Board.—Sir W. Foster said that about nine years ago the pamphlet referred to was sent to the Board by the National Health Society, and that a few corrections and additions were suggested on behalf of the Board. As to the distribution of the pamphlet no information had been received by the Government officials.—In reply to another question submitted by the hon. member, Sir Walter Foster said the Vaccination Acts contained no provision for compulsory revaccination.

Cholera and Quarantine.

Colonel Howard Vincent put a question on this subject, to which Mr. H. Fowler replied that, with the exception of three or four ports on the eastern coast, all the ports of Great Britain had been absolutely free from cholera. The authorities had not been made aware of any case of cholera at Southampton. The medical advisers of the Local Government Board were of opinion that no danger of infection from cholera could arise on board a ship which had, since leaving a British port, been at sea for fourteen days and had during that time been free from choleraic diarrhœa.

IN THE COMMITTEE-ROOMS.

THE OPIUM COMMISSION.

Thursday, Sept. 14th.

THE Royal Commission on the incidence of the opium trade between India and China sat again on this day at the House of Lords under the presidency of Lord Brassey. Mr. H. J. Wilson, M.P., took his seat for the first time in the place of Mr. Caine.

Sir JOHN STRACHEY was the first witness, and his views on the main question were set forth in a paper which he read before the Society of Arts last year. The witness had lived in India for thirty-eight years and, therefore, had ample opportunity of watching the effects of the use of the drug on English subjects in that dependency, in which the annual value of the opium crops amounted to about £13,000,000. Experience proved that opium was not a terrible poison and when consumed in moderation was not more harmful than any other stimulant. It was to be remembered that India contained 280 millions of people and consisted of numerous countries, the inhabitants of which differed widely from each other. In some of those countries the people had from time immemorial consumed opium, but these constituted but a small fraction of the population of India. The statement that the consumption of opium was increasing, being fostered by the English Government, was quite baseless, as the evidence forthcoming proved the contrary. It was indisputable that the people who consumed opium—e.g., the Rajputs and Sikhs—were the finest races in India. With regard to the Chinese part of the question, it was a great delusion to suppose that China depended on India for her supply of opium. Indian opium was a luxury to be obtained only by the well-to-do Chinaman. A single province in China produced more opium than did the whole Indian empire. Moreover, if the Chinese Government wished to prevent the importation of opium from India it could not do so. It would be unjust to deprive India of the revenue which she obtained from opium for the sake of pursuing a benevolent chimera. In reply to a question put by the chairman, Sir John Strachey said that the paper read by Mr. Batten at the Society of Arts last year gave a very full and accurate account of the opium question. The British Government had no concern whatever with the cultivation of the poppy or with the manufacture or the consumption of opium in the native States. In Bengal, however, the case was different, as there the Government was a manufacturer of the article. There would be great political difficulties in the way of any attempt to repress the cultivation and the smoking of the drug in the native States. He asserted very confidently that the Indian Government had never been influenced by any desire to encourage the use of opium either in India or in China. In India, properly so called, there was no evidence to show that in any part of the country the consumption of opium was a prominent and crying evil. He admitted that the habit might be and was abused, but he quite disbelieved that that abuse existed to any large extent. In reply to the chairman, who asked the opinion of Sir John Strachey as to the accuracy of the statement made by the missionaries to the effect that the Chinese Government had been deterred from taking any active steps to prohibit the growth of the poppy and the consumption of opium by the fact that the drug was permitted to be exported from India, the witness said he believed it to be a complete mistake.

Sir WILLIAM MOORE next gave evidence and in reply to the chairman said that he had filled many important positions in India, in which country he had resided for more than thirty-three years. He had been principal medical officer in Rajputana and surgeon-general in the Bombay Presidency. He had come to the conclusion that opium smoking was practically harmless, as was also the drinking of opium-water, the imbibition of which was even productive of benefit. The moderate use of the drug brightened the intellect and rendered the people who used it more capable of bearing fatigue and of enduring hunger. It was also a prophylactic in malarious fever. If taken to excess, opium, like alcohol, did become injurious, but it never produced disease, as did the latter, except in the last stages of opium-eating, when emaciation and diarrhœa might set in. The opium-user never quarrelled with his neighbour or beat his wife or did other objectionable things as did those who took alcohol to excess. A man who suffered from alcoholism acquired disease of the liver, heart and other bodily organs, but nothing of that kind affected the user of opium, except in the last stages of his career. If opium were only obtainable in India by medical prescription the social customs of the people would be seriously interfered with—as, for instance, in the case of the Rajput gentleman who, after his evening meal produced his opium pipe or cup of opium water just as wine was brought on the tables in England after dinner. Sir William Moore cited instances in which the deprivation of opium in one form or another would gravely affect the habits and courtesies of the natives of India. In answer to Sir William Roberts, the witness said that the Rajputs were one of the finest races in India and they were almost all of them habitual opium-eaters. As a general rule the tendency to increase the dose did not obtain. As to the total effect of the use of the drug, his opinion was, after many years' experience, that it was more beneficial than harmful. The insurance offices did not impose a higher premium on candidates for insurance because they used opium and in that determination they were guided by medical advice. Whilst hundreds of the natives were consigned to lunatic asylums on account of their addiction to the use of a liquor called "chang," only five or six went there on account of the effects of opium. The habitual use of the drug did not spread amongst Europeans.

Dr. F. J. MOUAT stated that in various offices held by him in India he had acquired an intimate knowledge of opium in all its relations, social and scientific. He had dwelt for thirteen years between a Chinese colony and an up-country community in Calcutta, the inhabitants of both of which were known as consumers of opium. He was in constant communion with them and never once in that time came in contact with an opium drunkard, a disturber of the public peace or one degraded by the habit either morally, mentally or physically. They were singularly orderly and intelligent and there was a complete absence of crime amongst them. He had collected the statistics of crime and criminals in the Lower Provinces, with their large population, during five consecutive years, during which time every detail of information regarding them was placed on record, and amongst 302,063 convicted and imprisoned there was not a single crime or death due directly to opium in the official report when he placed on the table. As respects loss of reason, the lunatic asylums of Bengal—five in number—in ten years contained only eight cases of lunacy attributable to opium. The police records were equally silent as to criminal acts which came under the notice of the police and magisterial authorities amongst consumers of opium either in Calcutta or in the provinces. The latter fact was vouched for by Mr. Munro, who had been Chief Commissioner of Police in London and was for some years Inspector-General of Police in Bengal. He certified that by far the most law-abiding inhabitants everywhere were the known consumers of opium. His written testimony on that point was submitted to the Commission. As it was impossible for him to place before the Commission his views, based upon thirty years' residence and study of the question in India, in the limits of an oral examination, Dr. Mouat solicited permission to submit to the Commission papers written by him which had been published in THE LANCET, which was sanctioned and they were handed in. In conclusion, he was allowed to read his formulation of the results of his inquiries and personal experience on the whole question. He maintained—and he had not seen any authenticated proofs of its inaccuracy—that the habitual use of opium was neither injurious, degrading, nor immoral; that it had caused no general, mental, or physical deterioration of the races inhabiting any part of India in which it was in common use since the control of its cultivation and distribution had been undertaken by the Government of India; that it was not an incentive to crime or destroyer of reason; that it was a valuable febrifuge and prophylactic in all malarious districts; that any alternative which might, and indeed must, follow its compulsory disuse or employment only as a medicine, for the enforcement of which no trained agency at present existed, would be a resort to much more harmful stimulants and narcotics than opium ever had been or could be; that the reasons advanced for its proposed suppression were unsound, visionary, and calculated, if carried into effect, to cause much undeserved misery and suffering amongst the peaceful communities, and it would be resisted actively by the more manly and warlike races of India, whose mental, moral and physical qualities were the best possible proofs of the absolute inaccuracy of the anti-opium contention; that it shared with the many narcotics and stimulants in use in all civilised countries the characteristics of a poison when used in excess, but in a minor degree to most of them; that such excess was exceptional in India; that the revenue raised from its sale in British

India was no more immoral or degrading than the revenue raised in Great Britain from the spirit licences and other means of taxation applied to alcohol in its various forms, or to tobacco, which was also in universal use; that the fiscal action of the Government of India in restricting its use was a really humane and moral measure when contrasted with the spirit licences issued in Great Britain and was, in itself, a thoroughly moral proceeding. Dr. Mouat, in conclusion, said that in his thirty years' experience in India he had never met with an example of an opium wreck, such as had been described by the advocates of the suppression of opium.

Sir GEORGE BIRDWOOD gave his personal experience, founded on fifteen years' residence in Western India. He had been in medical charge of several Indian regiments and he had never met with a single instance of a native suffering from what was called the excessive use of opium. The testimony of this witness accorded almost entirely with that given by former witnesses at this sitting and went to show that opium-smoking was as innocuous as smoking hay; it had not the potency of the mildest tobacco, as judged by experiments on himself. Those who held that the habitual employment of the drug was harmful ought to be the last to object to the State monopoly in the production of opium in India. For himself he regarded it as essential to the health, wealth and happiness of a vegetarian tropical people. Alcohol in a tropical climate was a frightful intoxicant; even tea and coffee had an intoxicating effect.

The last witness called at this sitting was Mr. H. N. LAY, C.B., formerly secretary to Lord Elgin, but his evidence was not important from a medical point of view.

Friday, Sept. 15th.

Sir THOMAS WADE, G.C.M.G., K.C.B., was the first witness called at this sitting. He said he had spent forty years in China, having acted during part of that time as British Minister at Pekin. No man who had lived in China as long as he had could deny that the excessive use of opium was a great misfortune for the inhabitants of that land. Still he could not make that statement now so unreservedly as he did years ago. To many people in China the use of opium was precisely what the moderate employment of alcohol was to the English workman—i.e., the glass of beer which cheered and refreshed him. It was indisputable that the Chinese became acquainted with the use of the poppy as a medicine very early in their history, perhaps twelve or thirteen centuries ago. As regarded the effects of the drug upon smokers these were various, some of them being innocuous, others prejudicial, and the testimony of those who had seen those effects was often coloured by preconceived or erroneous notions. In answer to a question by the chairman Sir Thomas Wade said he believed that a very large number of the Chinese were sincerely opposed to the opium trade, but, on the other hand, many facts seemed to point in the contrary direction. [Very much of the evidence of this witness bore on the political aspects of the opium question and may therefore be omitted here.]

Mr. H. STEWART LOCKHART, Registrar-General of the Chinese in Hong Kong, explained that the post he occupied constituted him the medium of communication between the Government and the Chinese population of Hong Kong. Public opinion there was for the most part opposed to the opium habit. Observation and experience showed that the moderate use of the drug was not injurious physically or mentally. As to the allegation that the British had incurred the hatred of the Chinese on account of the connexion of the former with the opium question, he had never heard of it. Comparing the opium sot with the victim of alcohol, the witness said that the latter made himself a greater nuisance to society than the former. He did not think he had ever had a return of death from opium-smoking, but poisoning by means of the drug was not an uncommon mode of suicide. Under a system of free trade in opium the consumption of it would be greater than at present, because it would be cheaper.

Dr. ROWELL, C.M.G., as medical officer in the Straits Settlements, had seen some cases of excess in the use of opium in that region, but as a rule smoking was practised in moderation. He had made experiments with opium-smokers and had found that a certain proportion of them, after abstinence from the drug, had gained weight, a certain number remained stationary and a smaller proportion lost weight. He never saw anything of the terrible craving for the pipe such as had been described. Opium had obtained credit for a great deal which was really due not to the drug but to disease.

Mr. A. LONGMAN, of the Chinese-Indian Mission, which had been stationed in the Chehkiang province, gave evidence which entirely corroborated that advanced by the missionary witnesses with regard to the effects of opium.

Sir LEPEL GRIFFIN, K.C.S.I., was then called. He stated that the Government never prompted a native State to extend the cultivation of opium. Opium-eating was not a common practice in India, as it was too costly. The whole body of evidence regarding India showed that the use of the drug did no harm whatever, and it would be madness to abandon the revenue derived from the sale of opium at such a time as the present.

Mr. HENRY LAZARUS gave evidence which in the main accorded with that of the preceding witness. He testified that the use of opium did not unfit a man for work and that the Chinese were not ashamed of the practice of smoking.

Saturday, Sept. 16th.

This was the last sitting of the Commission in England previously to the resumption of its investigations in India, Lord Brassey being, as on former occasions, in the chair.

Prior to the commencement of this day's proceedings Sir CHARLES BERNARD read communications from Sir Joseph Fayrer and Sir Hugh Low, these gentlemen being unable to attend personally.

Sir JOSEPH FAYRER said that he had had thirty years' medical experience in many parts of India and could testify that in the great cities of India, in China and probably elsewhere in the East the abuse of opium was carried on to a great extent amongst a limited number of people, though its ravages were not so frightful as those resulting from alcoholic excesses in Europe. Over large areas in India the natives habitually indulged in the use of opium, as they had a great belief in its efficacy against malarious diseases. He did not believe that its employment had a tendency to shorten or to embitter life; on the contrary, it seemed to make life more enjoyable, physically and mentally. There was another drug which was in frequent use in India—namely, hemp—which was infinitely worse in its effects than was opium. No objection seemed to be taken to hemp by the anti-opium party. On the whole, he could see no ground for violent interference with the custom of taking opium.

Sir HUGH LOW, who was for many years employed as Administrator of Perak and other States of the Malay Peninsula under the British Government, wrote that he was decidedly of opinion that the abuse of opium was not carried on to such an extent in Perak and Labuan as to make it expedient to further interfere with the sale and importation of the drug than was done at present. His impression was that about two-thirds of the Chinese in his district were consumers of opium; but amongst the Malays there were very few. Sir Hugh Low's testimony coincided very nearly with that given by the former witness.

A letter was then read from Mr. T. W. DUFF, who had carried on business as a merchant in China for thirty years. In his communication the writer stated that in his opinion the use of opium had no deleterious effect on the inhabitants of the districts in which he traded. Indeed, the use of the drug was a positive necessity.

Mr. WILLIAM LOCKHART, M.R.C.S., was then called. He went out to China as a medical missionary in 1838 and left that country in 1864. He had had a very large experience of the effects of opium, having had half-a-dozen hospitals under his charge. His experience was that, whilst many of the Chinese took opium in small quantities without any noticeable injurious effect, others took it in large quantities with a very prejudicial result, not on the mind so much as on the body. Opium-smoking was confined entirely to adults. Women were less addicted to the habit than men. It was within his knowledge that commercial men and skilled artisans took opium without it interfering with their avocations. Alcohol was a much greater social evil in England than opium was in China. The statement that England forced opium upon China was not true. It would not be possible now to abolish the growth of the drug in India, but he thought that the English Government ought not to encourage the trade in it. Some took opium to alleviate pain, but for the most part it was employed as a means of dissipation.

Dr. GEORGE DODS said he had practised for years as a medical man in Canton and Hongkong and had seen opium-smoking to a large extent. Of course there were cases in which constitutions were ruined by the habitual use of the drug, but they were very rare. The great majority of the people in China smoked moderately, and he had not observed any harm to result from the habit.

Mr. DAVID MCLAREN said he was formerly President of the Edinburgh Chamber of Commerce and had been engaged all his life in the tea trade. In his opinion the flourishing state of trade with Japan as compared with that of China was almost entirely due to the disturbing element of opium in the case of the latter country.

Deputy-Surgeon-General PARTRIDGE of the Bombay Army gave his experience as derived from thirty years' service in India. Opium-smoking was in his view a vice which inflicted great injury upon the health of the people and tended to degrade them physically, mentally and morally. The cultivation and manufacture of the drug for any but a medicinal purpose he regarded as a crime. India sent to China every year enough opium to kill multitudes of people. In the prisons under his charge he had never been afraid of stopping a man's alcohol even if he were suffering from delirium tremens, but he was always afraid of stopping the opium.

The Rev. T. G. SELBY, Mr. CECIL POLHILL-TURNER and the Rev. THOMAS HUTTON, who had acted as missionaries in China, next gave evidence against the use of opium. Their testimony accorded on the whole with that given by former witnesses of the same class.

Mr. ALEXANDER MICHIE, a merchant in China for many years, said that after a Chinese dinner the opium pipe was handed round to the guests much as a tobacco pipe might be offered to an English diner. Dishonesty was not a prominent characteristic of opium-smokers. [Other points in the evidence of this witness have already been brought out in the examination of former witnesses and need not be repeated here.]

The sittings of the Commission in England were then concluded and the *locale* of the investigation will be transferred to Calcutta, where the first sitting will be held on Nov. 15th.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

AVERILL, CHARLES, M.B. & B.S. Dur., M.R.C.S., L.S.A., has been appointed Assistant Surgeon (additional) to the Macclesfield Infirmary.

BRAMWELL, HUGH RANSOM, M.B. Edin., M.R.C.S., has been appointed Honorary Surgeon to the Prudhoe Memorial Convalescent Home, Whitley, Northumberland.

CLARKE, W. H., L.R.C.P. Irel., L.R.C.S. Edin., has been appointed Assistant Surgeon (additional) to the Macclesfield Infirmary.

DAVISON, JAMES, M.D. Q.U. Irel., M.R.C.P. Lond., has been appointed Honorary Physician to the Royal Victoria Hospital, Bournemouth.

DOYLE, G. P., M.B., C.M. Aberd., has been appointed Medical Officer of No. 8 District of the Newmarket Union.

EVANS, E. R., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health to the Rural Sanitary District of the Newcastle-in-Emlyn Union, vice Davies, resigned.

FULLER, C. F., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of the East Woolwich District of the Woolwich Union.

GOULD, J. EDWIN, M.D., L.R.C.P. Lond., has been appointed Deputy Medical Officer of Health for the Borough of Chesterfield, vice Bluett.

HUNTER, CHARLES, L.R.C.P., F.R.C.S. Edin., has been appointed Medical Officer for No. 2 Dispensary, Carrickmore, vice Leitch.

JONES, C. G., L.R.C.P., M.R.C.S., has been appointed Medical Officer and Public Vaccinator for No. 1 District of the Cardigan Union.

KEMPE, CHARLES MARSHALL, M.R.C.S., L.S.A., has been reappointed Medical Officer of Health for the Shoreham Urban District and Port.

LAWRENCE, SIDNEY CAMERON, L.R.C.P. Lond., M.R.C.S., has been appointed Resident Medical Officer at Tilt Cove, Newfoundland.

LEITCH, WILLIAM JOHN, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer to the Clogher Workhouse.

PRICHARD, R., M.D., C.M. Glasg., has been appointed Inspector of Nuisances to the Glamorgan Rural Sanitary Authority.

STEELE, JONATHAN, has been reappointed Medical Officer of Health to the Kidsgrove Local Board.

STEELE, R. S., M.B., C.M. Glasg., has been appointed Medical Officer of the Church Eaton District of the Cannock Union.

THOMAS, T. W., M.R.C.S., L.S.A., has been appointed Medical Officer of Health to the Caerphilly Urban Sanitary District of the Pontypridd Union.

TILL, G. W., L.R.C.P. Edin., L.F.S. Glasg., has been appointed Medical Officer of the Third District of the Worcester Union.

TWEEDY, CHARLES, M.R.C.S., has been appointed Medical Officer of Health to the Northallerton Local Board.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BELGRAVE HOSPITAL FOR WOMEN.—House Surgeon. Six months. Board and lodging provided. Applications to be sent to the Hon. Secretary.

BOROUGH OF LOWESTOFT.—Medical Officer of Health and Medical Attendant at the Sanatorium for the Urban and Port Sanitary Districts of Lowestoft. Salary for the Urban Sanitary District £80 per annum, for the Port Sanitary District £20 per annum and as Medical Attendant at the Sanatorium £50 per annum. Applications to the Town Clerk, Lowestoft.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road.—Clinical Assistant. Fee for three months £3 3s. Apply to Mr. Davis, Secretary.

DUNDEE ROYAL INFIRMARY.—Non-resident Dispenser. Salary £80. Applications to the Secretary.

EAST LONDON HOSPITAL FOR SICK CHILDREN.—House Physician. No Salary. Applications to Secretary.

HUNTINGDON COUNTY HOSPITAL.—House Surgeon. Salary, with board &c., £60. Applications to Mr. Dilley, Market-hill, Huntingdon.

LEITH HOSPITAL.—House Surgeon for six months. Salary at the rate of £50 a year, with board in the Hospital.

LEITH HOSPITAL.—Surgeon for the Out-door Department for six months. Salary at the rate of £50 a year, with board in the Hospital.

LEITH HOSPITAL.—House Physician for six months. Salary at the rate of £50 a year, with board in the Hospital.

MANCHESTER CLINICAL HOSPITAL FOR WOMEN AND CHILDREN, Parkplace, Cheetham-hill-road.—Honorary Assistant Surgeon. Applications to the Secretary, 38, Barton Arcade, Manchester.

MANCHESTER CLINICAL HOSPITAL FOR WOMEN AND CHILDREN, Parrk place, Cheetham-hill-road.—House Surgeon. Salary £30 per annum, with apartments and board. Applications to the Secretary, 38, Barton Arcade, Manchester.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House Surgeon. Rooms, commons and washing in lieu of Salary. Appointment for six months. Applications to be sent to the House Surgeon.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—House Physician for six months. Salary at the rate of £40 per annum, with board and lodging.

WARNEFORD HOSPITAL, Leamington Spa.—House Surgeon, unmarried. Salary £100 per annum, with board, lodging and washing.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL, Wolverhampton.—House Physician (who will also be required to act as Chloroformist, Pathologist and Medical Registrar). Salary £100 per annum, with board, lodging and washing.

YORK COUNTY HOSPITAL.—Assistant House Surgeon. Salary £48, with board &c. Applications to the Secretary.

Births, Marriages and Deaths.

BIRTHS.

BLACKLOCK.—On Sept. 16th, at Daisy Bank, Heaton-park, Manchester, the wife of John Blacklock, M.D., of twin sons.

DE'ATH.—On Sept. 7th, at West-street, Buckingham, the wife of George H. De'Ath, M.R.C.S., L.R.C.P. Lond., of a son.

EDE.—On Sept. 17th, at Woodview, Bramley, Guildford, the wife of G. Hubert Ede, M.D., of a daughter.

FRANCIS.—On Sept. 16th, at St. Andrew's, Uxbridge, the wife of L. A. Francis, M.R.C.S., L.R.C.P., of a son.

HOWELL.—On Sept 14th, at Cleeve House, West-hill, Wandsworth, the wife of Thomas Arthur Ives Howell, of a daughter.

JACKSON.—On Sept. 16th, at College-hill, Shrewsbury, the wife of Arthur Jackson, F.R.C.S. Eng., of a daughter.

KINCH.—On Sept. 13th, at The Grange, Wickham, Newcastle-upon-Tyne, at the house of her father, the wife of Dr. G. H. Kinch, Matlock-bridge, of a daughter.

SCALLON.—On Sept. 16th, at Wincanton, the wife of Ernest O. Scallon, M.R.C.S. and L.S.A., of a son.

WARRY.—On Aug. 31st, at 39, South-grove, Highgate, N., the wife of John King Warry, M.D., D.P.H., of a daughter.

MARRIAGES.

ECCLES—KARSLAKE.—On Sept. 18th, at St. Mary's Church, Liverpool, George Tolcher Eccles, M.A., M.B., B.C. Cantab., of Bocking Braintree, eldest son of G. H. Eccles, M.R.C.S., Sherwell House Plymouth, to Emmeline, daughter of the late John Dare Karslake, of Otherley, Devon, and Bolton-gardens, Kensington.

FERNIE—CORNER.—On Sept. 14th, at the Parish Church, Inglescombe, Somersetshire, by the Rev. W. H. Samler, M.A., Francis Edward Fernie, L.R.C.P., M.R.C.S., of Stone, Staffs., eldest son of Edward Fernie, M.D., of the Radfords, Stone, to Elsie Grace, daughter of the late Richard Corner, of the Manor House, Inglescombe, Bath.

HAMILTON—BÓULGARIS.—On Sept. 21st, at St. Saviour's Church, Hampstead, by the Rev. John C. Hose, B.A., Charles D. Hamilton, M.R.C.S. Eng., L.R.C.P. Lond., of Corfu Villa, Canfield-gardens, Hampstead, to Fotini A. Bóulgaris, niece of C. H. Trinks, Esq., F.C.S., F.G.S., of Heathfield House, Upper-park-road, Hampstead, and granddaughter of Surgeon-General Dr. Ornstein.

LEWITT—PICKERING.—On Sept. 7th, at All Saints, Leicester, by the Rev. H. S. Gedge, Rector of Aylestone, assisted by the Rev. A. O. James, Vicar of All Saints, Frederick William Lewitt, L.R.C.P., M.R.C.S., of Abbotsleigh, Belgrave-road, Leicester, to Louise Blanche, elder daughter of Henry Pickering, High-cross-street, Leicester.

MENCE—STRANGE.—On Sept. 12th, at Holy Trinity Church, Coventry, William Henry Dixon Mence, M.R.C.S., of St. Ives, Hunts, to Ann, only daughter of the late William Strange, of Banbury.

PEARSON—BURRELL.—On Sept. 20th, at St. George's Church, Tufnell Park, N.W., by the Rev. Frederick F. Key, B.A., Harry Beason Allen Pearson, L.R.C.P. Lond., M.R.C.S. Eng., to Mary Elizabath, only daughter of the late Henry Burrell, Esq., of Canonbury, N.

DEATHS.

ARMITAGE.—On Sept. 10th, at Tregunter, Breconshire, Percy Tatham Armitage, Captain, 1st Battalion South Wales Borderers, aged 33 years, son of S. H. Tatham Armitage, M.D., 39, Grosvenor-street, Grosvenor-square, W. Friends will please accept this intimation. Indian and Cape papers.

FARR.—On Sept. 14th, at Slade House, Kennington-road, Frederick William Farr, L.R.C.P., M.R.C.S., eldest son of Dr. George Frederick and Joanna Farr, in his 33rd year. Interred in Eltham Churchyard.

HARTLAND.—At Liverpool, John Francis Hartland, M.D., L.R.C.S. Edin.

HERBERT.—On Sept. 13th, Ethelbert Albert Herbert, L.R.C.P., M.R.C.S., son of H. R. Herbert of Breakspeare-road, Brockley, S.E., Constructor (retired), H.M. Dockyard, Devonport.

PRANCE.—On Sept. 14th, at 18, Princess-square, Plymouth, Charles Rooke Prance, M.D., F.R.C.P., M.R.C.S., L.S.A., Senior Physician S. Devon and E. Cornwall Hospital, aged 70.

RENDLE.—On Sept. 18th, at Treverbyn, Forest-hill, William Rendle, F.R.C.S. Eng.

RIGDEN.—On Sept. 13th, at his residence, Lowes, Sussex, George Charles Rigden, surgeon, in his 77th year.

RUSSELL.—On Sept. 14th, at Catherine Villa, Leith, the residence of his brother, David Russell, M.D., Vine House, Neston, aged 63 years.

VAN BUREN.—On Sept. 13th, at Eanismore, Rowland's-road, Worthing, Ernest Cecil Haward Van Buren, M.D., M.R.C.S., L.R.C.P., son of the late James Cartwright Haward and stepson of the late Martinus Van Buren, of Rotterdam, aged 34.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages and Deaths

Notes, Short Comments & Answers to Correspondents.

EDITORIAL NOTICE.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Publisher."*

We cannot undertake to return MSS. not used.

PUBLISHER'S NOTICE.

IN order to facilitate the work of reference to the volumes of THE LANCET, we have arranged to publish duplicate copies of the Index to each half-yearly volume in a form in which they may be subsequently filed or bound together. Those of our subscribers who may wish to be supplied with loose copies can obtain the same (without extra charge) on making application to the Publisher of THE LANCET.

THE SHONE SYSTEM OF DRAINAGE.

THE Government of Bombay, in consequence of the controversies that have arisen in regard to the Shone system of sewerage, recently sent Mr. Doig to Rangoon to inspect and report upon the practical working of that system there. Its motor power is compressed air acting upon the sewage after it has been collected by gravitation through closed vessels and driving it into an iron main leading to the outfall. Apart from other alleged objections, it has been urged that the exhaust air from the ejectors is very offensive from contact with the sewage under pressure; but we learn from the *Times of India* that Mr. Doig's report, after personal inspection of the Shone system at Rangoon, is very favourable to it; that he alleges there is practically no smell and even if there should be there is no reason why it could not be got rid of by the erection of a ventilating shaft connected with an exhaust. The results of this inspection will prove very satisfactory to the Bombay Municipality, who have adopted the system for the drainage of Colaba.

F.R.C.S. Ed.—Our correspondent is referred to an annotation on the subject regarding which he seeks information.

SMALL-POX IN THE "GOOD OLD DAYS."

To the Editors of THE LANCET.

SIRS,—It is rather the fashion at the present time to speak against vaccination, or, at any rate, against compulsory vaccination; but agitators are very apt to overlook the fact that a hundred years ago almost every other person was pitted with small-pox. The other day I came across the following reprints of old newspaper advertisements, which are rather interesting, as they show that people then advertised for servants "over small-pox" in very much the same way as we should now advertise for a dog "over distemper":—

> "Wanted, a man between twenty and thirty years of age, to be a footman and under-butler in a great family; he must be of the Church of England and have had the small-pox in the natural way. Also a woman, middle-aged, to wait upon a young lady of great fashion and fortune; the woman must be of the Church of England, have had the small-pox in the natural way, very sober, steady and well-behaved, and understand dress, getting up lace and fine linen and doing all things necessary for a young lady that goes into all public places and keeps the best company.—Enquire of the printer of this paper.—Oct. 1st, 1774."

I am, Sirs, yours very truly,

HERBERT LANKESTER, M.D.

Elm Park gardens, S.W., Sept. 15th, 1893.

TITLES.

Omega asks if a L.R.S.I., L.A.H.D. is entitled to call himself physician and surgeon. His proper title would be surgeon and apothecary.

Mr. W. C. Northcott is thanked for his communication. The formula he refers to contained a typographical slip, but the fact of carbonic acid gas being given off at a later stage in the process in question remains. It need hardly be pointed out that this gas is derived from the chalk after most of the lead peroxide has been decomposed.

"MEDICAL MEN AND DENTISTS: MISPLACED COURTESY."

To the Editors of THE LANCET.

SIRS,—The sentiments expressed by "Surgeon" in the last issue of THE LANCET are certainly not shared by the vast majority of the medical profession. Qualified dentists, whether medical men or not, are not less imbued with gentlemanly and professional spirit than their brethren who practise in other departments, and, whatever exceptions may exist, dentists, as a body, will be found to act according to the common rules when rendering services to medical men. It is certainly not the rule for dentists to accept fees from medical men for professional services. With regard to the latter part of "Surgeon's" letter, he is mistaken in his belief that qualified dentists advertise or employ "shop-window shows." Whilst the feeling against these practices is as strong the means of suppressing them are as ineffectual in the dental as in other branches of the profession. There are relatively fewer advertising qualified dentists than advertising medical men. The bulk of those so offending are unqualified pretenders of exactly the same type as are to be found practising more or less under false pretences in many departments. If the dental profession is to be reproached for the offences of the advertising dentist the medical profession must be stigmatised on account of the malpractices of curers and quacks whose advertisements disgrace so many newspapers. It must, moreover, be pointed out that medical quacks are often enabled to pursue their nefarious business through the aid they receive from qualified men who act as "covers," and it is well known that any advertising dentist able to pay for such services can always obtain similar assistance from a medical practitioner. If, as "Surgeon" suggests, dentists deserve to be degraded because of the conduct of disreputable qualified men and are to be made accountable for the misdeeds of the horde of parasites who cling to the profession and illegally assume its titles, the whole medical profession, which has certainly equal power to purge itself, must deserve at least similar treatment.

I am, Sirs, your obedient servant,

Wimpole-street, W., Sept. 16th, 1893. HENRY SEWILL.

M.A. will find the information he desires in either of the following works:—Newsholme's Hygiene (3*s.*), Corfield's Laws of Health (1*s.* 6*d.*), L. Parke's Manual of Hygiene and Public Health (10*s.* 6*d.*), Whitelegge's Hygiene and Public Health (7*s.* 6*d*).

Mr. J. J. Isaac.—We do not give medical advice.

ATTENDANCE ON FAMILIES OF MEDICAL MEN.

To the Editors of THE LANCET.

SIRS,—A sister of mine, the widow of a medical man, has lately, during a visit to ——, had the misfortune to require professional attendance for her second son, a boy of fifteen, who sustained a nasty accident to his eye. He was successfully treated by a medical man, who has made a charge for his attendance. I as her brother protested against any charge being made and the medical man in charge of the case offered to refer it to Mr. Bryant, but my sister, objecting to any fuss, has paid, or is going to pay, the amount charged. Surely *casis non casem est* applies more particularly to our profession. I shall be obliged by your opinion as to whether any charge should have been made. I would add that the amount of the fees is not cavilled at. Personally during my twenty-three years of professional work I have never made any charge to the profession.

I am, Sirs, yours faithfully,

Woking, Sept. 11th, 1893. T. CAWLEY EAGER.

*** As the widow of a medical man she would be entitled to much consideration, and, unless rich, to be treated without charge. This is distinctly the rule and spirit of professional practice.—ED. L.

"THE RELIEVING OFFICER."

To the Editors of THE LANCET.

SIRS,—I should be glad to be informed through the medium of THE LANCET if it is customary for a relieving officer to call in a medical man outside a district to perform duties to which an extra fee is attached within the district, and which the medical officer of the district was himself able and willing to perform. On complaining to the board of guardians they support their relieving officer and actually snub me for making a complaint.

I am, Sirs, yours faithfully,

September, 1893. J. H. WHITBY.

*** Such conduct on the part of the relieving officer is irregular, unless there are special reasons for his so acting. Not having the history of the case it is impossible to say whether those special circumstances existed.—ED. L.

MINERAL WATERS.

To the Editors of THE LANCET.

SIRS,—Will you permit me through the columns of THE LANCET to call the attention of the members of our profession who devote themselves to the subject of mineral waters in the treatment of disease to the following fact as to the Elise-Brunnen of Homburg—a fact which doubtless applies to many other springs.

During a period of forty years I have at frequent intervals taken the Elise-Brunnen water myself and recommended it to others. When I took the course in the early years of that period, taking three glasses daily for three weeks, I found it quite impossible to reach my hotel in time, but had invariably to retire to the accommodation provided at the Spa, whereas later on in that period, and even in this very season of 1893, not only has that sudden retreat been unnecessary, but I have required to add some solvent salt to aid the action of the spring. Admitting that the constitution in youth and early manhood is more susceptible than that of advanced years, this change cannot thus be entirely accounted for. In those early days not only I but many of all ages might have been seen retreating under the influence of the waters. More recently, however, scarcely any of this sudden haste is ever conspicuous. Moreover—what did not exist at first—in these latter years a counter has been provided for the sale of aperient salts and mineral waters of a stronger quality, which are employed by many under the direction of the resident medical men. The change in the composition of the Elise-Brunnen water, if it really exists otherwise than in my imagination, in no way renders that spring less valuable in a numerous class of cases. Indeed, I venture to assert that in many cases its non-aperient action is an advantage, as it enables the valuable chemical salts contained in the waters of the Spa to incorporate themselves with the tissues of the body, instead of at once passing away, and thus to accumulate and work out the curative process more slowly and more surely than by passing out of the body at once. Of course, medical men visiting any continental spa have no facilities for reanalysing the waters of springs; but it is quite consistent with reason that a spring of water coming in contact with certain various soluble salts in its passage towards the surface of the crust of the earth, whereby it is converted into a mineral water, may in the course of time exhaust the supply of the more solvent salts within its reach and thus lose one of its qualities, whilst retaining many other valuable attributes. In the case of the Homburg Elise-Brunnen I believe this to be actually the case. Nevertheless, most valuable results follow from a judicious use of this spring in a variety of disordered constitutions, even to those who from habitual over-indulgence in the good things of this life, or who are saturated with that *bête noire* of the present age, a gouty diathesis, which a too full diet may have developed. But good results in such cases are not brought about by the aperient action of this valuable spring, but by the early and regular habits and restricted gastronomic indulgences which every sensible man ought to comply with under the direction of his medical adviser. It is no place, however, for the simply obese. Obesity, if congenital, is scarcely curable; for the reduction of obesity produced from over-feeding &c. its victim must seek Kissingen, Carlsbad and other kindred spas. These remarks are not intended to lessen the confidence which is so justly awarded to this most valuable spa. Homburg is one of the most delightful watering-places in the world. Independently of its value as a sanitary resort it collects together during the season the most distinguished and fashionable company, and is, without any reference to its undeniably valuable curative powers, perhaps the most delightful watering-place that can be named. It is to be hoped, however, that the local medical men will have fresh analyses made of the various springs and place the results within the reach of the medical faculty throughout the world.

I am, Sirs, yours faithfully,

Edinburgh, September, 1893. JAMES JOHNSTON, M.D.

Mr. P. K. Kenroy.—Our correspondent should apply to any respectable registered practitioner, and he should threaten the quacks who send him such circulars as that which he forwards to us with the police if they repeat the offence.

A WARNING.

To the Editors of THE LANCET.

SIRS,—On Dec. 5th last our city was visited by a woman of distinguished appearance, representing herself to be Mary Young Ridenbough, a granddaughter of Ephraim McDowell, the ovariotomist, and author of his biography, which she claimed to be selling. For her credentials she presented letters of endorsement purported to have been written by Dr. Lewis A. Sayre of New York, Sir Spencer Wells of London and other eminent physicians in America and Europe. A dozen or more medical men of Montgomery (Ala., U.S.A.) subscribed for the book, which was to be delivered within a month and, as she requested it, paid for in advance. As yet we have heard nothing more of the book or of Mrs. Ridenbough. She said she intended visiting England—and, in fact, of making a circuit of the world; if she has not quite gotten around this may do some good.

I am, Sirs, yours faithfully,

Montgomery, Ala., U.S.A., Sept. 4th, 1893. L. L. HILL, M.D.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, September 21st, 1893.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
Sept. 15	30·20	W.	59	56	112	77	54	·21	Overcast
,, 16	29·90	W.	60	58	81	63	56	..	Overcast
,, 17	29·73	N.	57	54	109	67	55	..	Cloudy
,, 18	29·74	S.W.	59	57	86	68	55	..	Overcast
,, 19	29·51	S.W.	63	61	89	68	58	..	Cloudy
,, 20	29·45	W.	57	54	105	66	54	·06	Cloudy
,, 21	29·53	S.W.	48	47	55	52	45	·05	Overcast

Medical Diary for the ensuing Week.

Monday, September 25.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays, at the same hour.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; and on Tuesday, Wednesday, Friday, and Saturday at the same hour.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.; Tuesday, 2.30 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 2.30 P.M.; Friday, 2 P.M.
ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, daily at 10 A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M.; and each day at the same hour.
CHELSEA HOSPITAL FOR WOMEN.—Operations, 2 P.M.; Thursday, 2 P.M.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M.; and on Thursday at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.
UNIVERSITY COLLEGE HOSPITAL. Ear and Throat Department, 9 A.M.; Thursday, 9 A.M. Eye Department, 2 P.M.

Tuesday, September 26.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.
CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M. Skin Department, 1.45; Saturday, 9.15.
ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electro-therapeutics, same day, 2 P.M.

Wednesday, September 27.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1.30 P.M.; Saturdays, 2 P.M. Obstetrical Operations, Thursdays, 2 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M., and on Thursday and Friday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.
LONDON HOSPITAL.—Operations, 2 P.M.; Thursday and Saturday, same hour.
ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.
GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 1.30 P.M. Dental Department, 9.30 A.M. Eye Department, 2 P.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.
CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.

Thursday, September 28.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M. Ear and Throat Department, 9 A.M. Eye Department, 2 P.M.

Friday, September 29.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Eye Department, 2 P.M.

Saturday, September 30.

UNIVERSITY COLLEGE HOSPITAL.—Skin Department, 9.15 A.M.

During the week marked copies of the following newspapers have been received:—*Daily News, Southern Echo, Western Morning News, Yorkshire Herald, Medical Record (New York), Fulham Observer, Newcastle Daily Journal, Financial News, Westminster Gazette, Bristol Mercury, Leeds Mercury, Railway Review, Morning, Bradford Observer, Falkirk Herald, Huddersfield Daily Examiner, Yorkshire Post, Macclesfield Courier, Bristol Mercury, Leeds Mercury, Surrey Mirror, Fulham and West London Observer, Liverpool Daily Post, West Middlesex Advertiser, Hertfordshire Mercury, Windsor and Eton Express, Sussex Coast Mercury.*

Communications, Letters &c. have been received from—

A.—Dr. F. Anderson, Demerara; Lt.-Col. W. H. Allsopp, London; Anchor Window Cleaning Co., London; A. L., London; Arithmos, London.

B.—Sir James Crichton Browne, London; Mr. W. H. Bennett, London; Mr. W. P. Brook, Croydon; Mr. Charles Blair, Dundee; Mr. T. B. Browne, London; Mr. C. Birchall, Liverpool; Messrs. Blondeau et Cie., London; Bradford Eye and Ear Hospital, Secretary of.

C.—Dr. W. H. Corfield, Bexhill-on-Sea; Mr. J. E. Cornish, Manchester; Mr. A. J. Colleen, Surbiton; Mr. W. H. Collins, London.

D.—Mr. L. Demetriadi, Huddersfield; Mr. J. W. Langdon Day, Herts; Messrs. Davies and Co., London.

E.—E. I. R.; Etiquette.

F.—Dr. C. E. Fitzgerald, Folkestone; Messrs. Fannin and Co., Dublin; Messrs. Frith and Co., London.

G.—Dr. H. Gabbett, Eastbourne; Dr. F. Gundrum, California, U.S.A.; Mr. J. G. Gornall, Warrington; Mr. H. R. Greene, Southsea; Great International Window Cleaning Co., London.

H.—Dr. H. Elwin Harris, London; Dr. H. A. Hare, Philadelphia; Mr. Victor Horsley, London; Mr. M. J. Houghton, Weston-super-Mare; Mr. J. Heywood, Manchester; Messrs. Humphreys, Limited, London.

I.—Islington Glass Bottle Co., London.

J.—Dr. James Johnston, Edinburgh.

L.—Mr. A. J. Lowe, Boothstown; Mr. J. Ernest Lane, London; Mr. H. H. Lewis, London; Messrs. T. H. Lloyd and Co., Leicester; Messrs. Longmans and Co., London; Messrs. H. J. Limmer and Co., Lowestoft; Leeds Hospital for Women and Children, Secretary of; Lancaster Royal Albert Asylum, Secretary of; L. H. R.; Lescher, London.

M.—Dr. J. Mason, Sheffield; Dr. T. M. Martin, Coalbury; Dr. D. Murray, Brora; Dr. W. G. Murray, Clacton-on-Sea; Mr. Mansell Moullin, London; Mrs. Morris, London; M.O.H.; M.B., Manchester; Medicus, Attleborough.

N.—No Premium, London.

O.—Dr. Thos. Oliver, Newcastle-on-Tyne.

P.—Dr. Leslie Phillips, Birmingham; Dr. W. H. Packer, Cressage; Mr. Herbert Pulling, London; Princeps, London.

R.—Sir B. W. Richardson, London; Dr. T. Robinson, London; Dr. R. R. Rentoul, Liverpool; Dr. J. B. Ryley, London; Mr. R. Redpath, Newcastle-on-Tyne; Mr. George Rendle, London; Mr. G. J. Roberts, Festiniog; Rotherham Hospital, Resident Medical Officer of; Rusticus.

S.—Mr. Henry Sewill, London; Mr. W. H. Simpson, Leicester; Mr. M. A. Saltmarshe, London; Mr. C. C. Skardon, Corscombe; Mr. J. A. Storey, Kerton; Messrs. W. H. Smith and Sons, London; Messrs. Shelley and Co., London.

T.—Dr. James Taylor, London; Dr. H. G. Turney, London; Mr. C. Thompson, Burton-on-Trent; Mr. Wm. Turner, London; Mons. E. Tranchevent, Paris; T. H. G.

U.—Urbanus, London.

W.—Dr. Muzio Williams, London; Mr. Chas. Wray, London.

X.—X. Y. Z., London.

Y.—Mr. N. E. Yorke-Davies, London; Yorks County Hospital, Secretary of.

Letters, each with enclosure, are also acknowledged from—

A.—Dr. E. Allen, Hawes; A. B., London; A. R. H., London; A., London; A. L., London; Accoucheur, London.

B.—Dr. F. O. Buckland, London; Mr. N. Burns, Ayr; Mr. G. V. Benson, London; Mr. H. J. T. Blanch, Stroud; Mr. J. Bostock, Loughborough; Mr. J. Birkenhead, Aysgarth; B., Leeds.

C.—Mr. E. T. Chamberlain, Southampton; Mr. W. E. Cuthbertson, Bridgend; Mr. G. G. Clarke, Morpeth; Mr. D. Cooper, Huntingdon; Cantab., London; Class Rooms, Edinburgh; C. M., Glasgow.

D.—Dr. A. C. Dixey, Halstead; Sir F. de Winton, Glasbury; Mr. De Montbrun, jun., Port of Spain, Trinidad; Doctor, Sunderland; Delta, London.

E.—Dr. Easby, Peterborough; Mr. W. C. Ellis, Easingwold; Mr. E. English, Doncaster; Mr. F. J. Elsom, Chesterfield; Mr. E. R. Evans, Festiniog; Messrs. Elliott, Son and Boynton, London: E. B., London; Early, London; E.M.D., London.

F.—Dr. E. Fernie, Stone; Mr. J. Foale, Kingsbridge; Mr. E. H. Forjett, Wingham; Forceps, Ascott-under-Wychwood.

G.—Mr. W. Gilyard, Bradford; Mr. E. B. Granger, Skipton; Gamma, London; G. J., London.

H.—Dr. C. H. Hill, London; Mr. W. H. Harris, Dover; Mr. J. A. Hughes, Holywell; Mr. A. B. H. Hannah, Lostwithiel; Mr. W. Heap, Liscard; Hospital for Women, London, Secretary of; Hygiene, London; Hippocrates, London; Home, London; H. P., London.

I.—Incus, Hanley.

K.—Mr. T. S. Keys, Gorseinon; Mr. P. M. Kelly, Cree; Messrs. Kemp and Co., Bombay; Messrs. Keith and Co., Edinburgh.

L.—Dr. L. T. Lancaster, Clitheroe; Mr. F. W. Lewitt, Leicester; Mr. C. J. Lownds, Huddersfield; Mr. A. J. Lappin, Gilford; Mrs. Laird, Shottermill; Lux, London.

M.—Dr. P. A. McCarthy, Finea; Dr. T. L. Morgan, Ton-y-pandy; Dr. W. M. MacCulloch, Guernsey; Mr. F. J. Maunsell, Cardiff; Mr. J. B. Monk, Alton; Mr. W. C. Moore, Bourton-on-the-Water; Mr. J. McElfatrick, Mere; Mr. R. P. McWatters, Armagh; Market Lavington Private Asylum, Superintendent of; Medicus, Middlesbrough; Medicus, Birmingham.

N.—Dr. Nelson, Looe; Dr. E. P. Norman, Ashbourne; Mr. J. W. Norman, Teignmouth; Nottingham General Hospital, Secretary of.

P.—Dr. W. Peart-Thomas, Heckmondwike; Mr. C. H. G. Prance, Plymouth; Mr. W. Pierce, Liverpool; Prestwich County Asylum, Superintendent of; P. C. W., London; P. N. G., London; Princeps, London.

R.—Mr. T. E. Rice, Cosham; Mr. J. R. Richards, Bridestowe; Mr. P. A. Riordan, Cloyne; Reginaris, Limited, London, Assistant Secretary of; R. H. R., London; Refuge, London; Rossiter, Amlwch; R. R., Birkenhead; R. D., London.

S.—Dr. A. Schnelle, Málaga; Mr. O. B. Shelswell, Mitcham; Mr. E. F. Stuart, Preston; Mr. J. B. Stelfox, Middleton; Mr. J. H. Sewart, Lostwithiel; Mr. R. B. Stedman, Godalming; Mr. H. Smith, Woking; Surgeon, Sheffield; Surgeon, London; Silex, London; Semper, London; S., London; Statim, London; Scalpel, Axminster; S.R.P., London.

T.—Mr. J. Thin, Edinburgh; Mr. A. G. Tribe, Wolverhampton; T. R. B. London; T. R., Bath.

V.—Vendor, London.

W.—Dr. J. K. Warry, London; Mr. H. Webster, Whitby; Mr. W. Williams, Oswestry; Messrs. Whitworth and Stuart, Manchester.

X.—X., London; X. B., London; X. Y. Z., London.

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Agent for the Advertisement Department in France—J. ASTIER, 66, Rue Caumartin, Paris.